

NOVEMBER '56

MODERN TEXTILES

MAGAZINE

Specializing in Rayon and Synthetic Fibers since 1925

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**WILLIAM
HELLER**

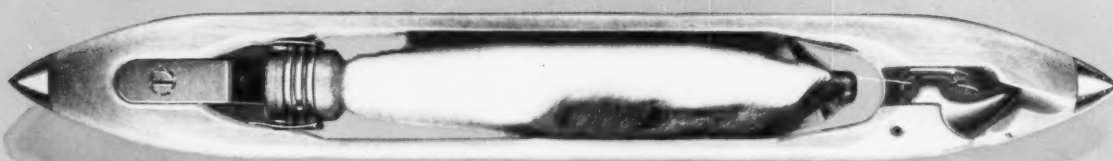
*takes charge at
S. Blumenthal & Co.-
Story on page 33*

THIS MONTH'S SPECIAL FEATURES

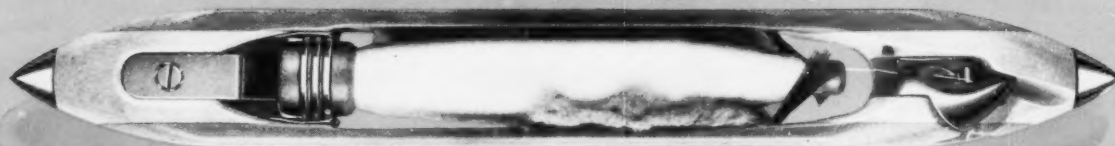
How to handle Verel
Improved nylon dyeing
How Unifil cuts winding costs
Tests for better mill operation
Picture report on Greenville show

AND 14 MORE EXCLUSIVE ARTICLES AND SPECIAL REPORTS

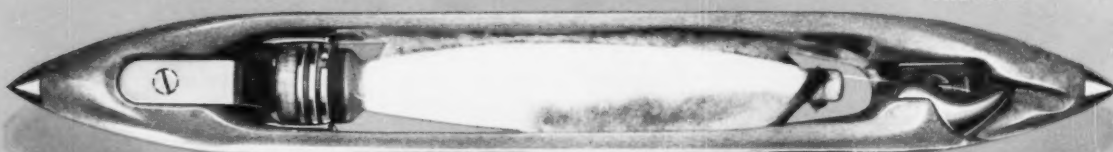
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"TRU-MOLD"



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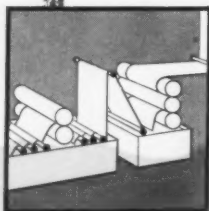
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MODERN TEXTILES

November, 1956 Vol. 37, No. 11
MAGAZINE *

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350 Fifth Avenue, New York

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New Du Pont Nylon Plant

A new nylon plant designed to produce 40,000,000 pounds of fiber annually to meet the growing demand for its use in tire cord and other industrial products will be built by the Du Pont Company in Richmond, Va., on the same site as the firm's rayon plant.

The multi-million dollar plant, the company's fourth, is in anticipation of the growth in demand for nylon, particularly for industrial yarns. Work on the plant is expected to start late this year with production scheduled to begin the latter part of 1957. There are 25 firms throughout the world which have been licensed by Du Pont to make the fiber.

Fine Denier Tire Yarn

Production of a fine denier super rayon yarn by American Viscose Corp. has been announced by George L. Storm, vice president and general manager of the firm's Rayon Division, thus permitting Avisco to offer a wide range of yarns tailored for industrial applications.

The new product will be available in 1100 and 2200 denier, with or without twist, 1.0 to 2.25 denier per filament. Each type can be offered in a wide range of strength and other physical properties. In the low denier, super Rayflex type, Mr. Storm said, the Avisco tire cord approaches nylon strength characteristics while remaining within the rayon price range.

Reeves Brothers Expand

Reeves Brothers, Inc., has acquired the Vi-Plax Products Corp., Beverly, N. J., and the Garrison Company, So. Plainfield, N. J. Both newly-acquired firms, which have been engaged in the extrusion of plastic materials, will be merged as a corporate subsidiary of Reeves Brothers under the trade mark "Vi-plax," to produce rigid vinyl pipe and fittings,

nylon rod tubings and film, specialized wire coatings of nylon and other plastics, and a new line of pressure-rated pipe and fittings.

Dr. Victor L. Erlich has been named vice president and director of research of Vi-Plax, the subsidiary. John M. Fenlin is vice president and director of sales and David H. Garrison is vice president in charge of production. John E. Reeves, president, said the new acquisitions will enable the company to meet the increasing demand for its plastic products.

Merge Knitting Machine Units

Draper Corporation is now proceeding to combine its two knitting machine subsidiaries in an economy move, according to Thomas H. West, president. This was indicated when the company purchased the Wildman Manufacturing Co. early this year. The Jacquard Knitting Machine operations will shortly be moved into the Wildman plant at Norristown, Pa. The Wildman plant space recently was increased to 124,000 square feet. Draper plans to dispose of the Jacquard factory. The improved financial position of Draper anticipated from the consolidated operation is expected to become apparent in 1957.

Rug Mothproofing Survey

There is an increasing consumer demand for mothproofing in floor coverings according to a survey of carpet and rug buyers in 116 retail stores in 46 major market areas sponsored by Geigy Dyestuffs, Division of Geigy Chemical Corp.

The survey revealed that over 60% of the store buyers consider mothproofing important for their customers. Three out of five floor covering buyers were of the opinion that customers would gladly pay from \$1.50 to \$6.00 extra for a 9 by 12-foot rug if they knew it had been mothproofed for life with a product such as Mitin.

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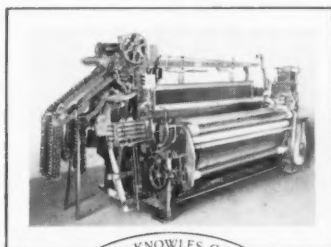
When the Duke
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of traditional trousers

... can you follow the new fashion-leader?

When a young nobleman recently appeared at a formal wedding *without* striped trousers . . . but *with* plaid trousers . . . the world of fashion blinked, looked again — and followed suit!

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Widen Caprolan Nylon Line

The number of Caprolan nylon heavy yarns now in commercial production has been increased to 13 according to George H. Hotte, director of fiber sales and service, National Aniline Division, Allied Chemical & Dye Corp. The heavy yarns were introduced to the trade last year and established on a commercial basis early in 1956.

Caprolan yarns are a new class of high tenacity nylon yarns which are reported easy to dye and are completely versatile in their applications. They lend themselves to the new bulking processes and are recommended for use in upholstery fabrics, draperies, carpets, tufted goods and other end uses where color and durability are important.

In addition, Caprolan yarns are finding acceptance in industrial fabrics and mechanical goods where high impact strength and added toughness are essential. The heavy yarns are being used in webbings, conveyor belt fabrics, nettings, rope, cord, seine twine, braids, tapes and similar applications.

Whitin Machine Expanding

An extensive plant expansion and modernization program of the Whitin Machine Works has been announced by J. Hugh Bolton, president. The program will involve a total expenditure of \$4,500,000, and includes construction of a large new building and enlargement of a second building. The plant additions will boost the company's floor space at Whitinsville, Mass., by 94,000 square feet. At the firm's Charlotte, N. C., plant, floor space will be increased by 36,000 square feet.

The company, a large manufacturer of textile preparatory machinery, recently entered the business equipment field and now produces and markets an offset duplicator, the Whitin Masterlith Duplicator.



Architect's drawing of the new Marshall & Williams plant now under construction near Greenville, S.C. The new building will house the Marshall & Williams Southern Corp. and the Marshall & Williams Equipment Co. The increase in manufacturing and repair space, as well as greatly improved loading and unloading facilities will make possible faster service to their customers throughout the South, while satisfying the growing demand for their products and services.

"Individualized" Carpet Rayon Colors

By blending 8 denier solution-dyed carpet rayon, introduced recently, with 15 denier fiber, carpet manufacturers can obtain a wide range of "individualized" colors, Hartford Rayon Co. announced last month. Hartford manufactures solution-dyed rayon carpet staple under the trade name "Kolorbon." According to George R. McGrath the blending of 15 and 8 denier colored staple, using the 13 basic colors of the Kolorbon line produces vivid variations and original shades. These results are achieved by combining various proportions of basic staple with each other or with white during yarn spinning. McGrath said that Hartford had already established formulas for 40 blended colors. He added that so far "we have only scratched the surface" of color and design potential of the new blending techniques. Hartford recently added three new colors, Melon, Capri Blue and Charcoal Grey to its solution-dyed carpet staple line.

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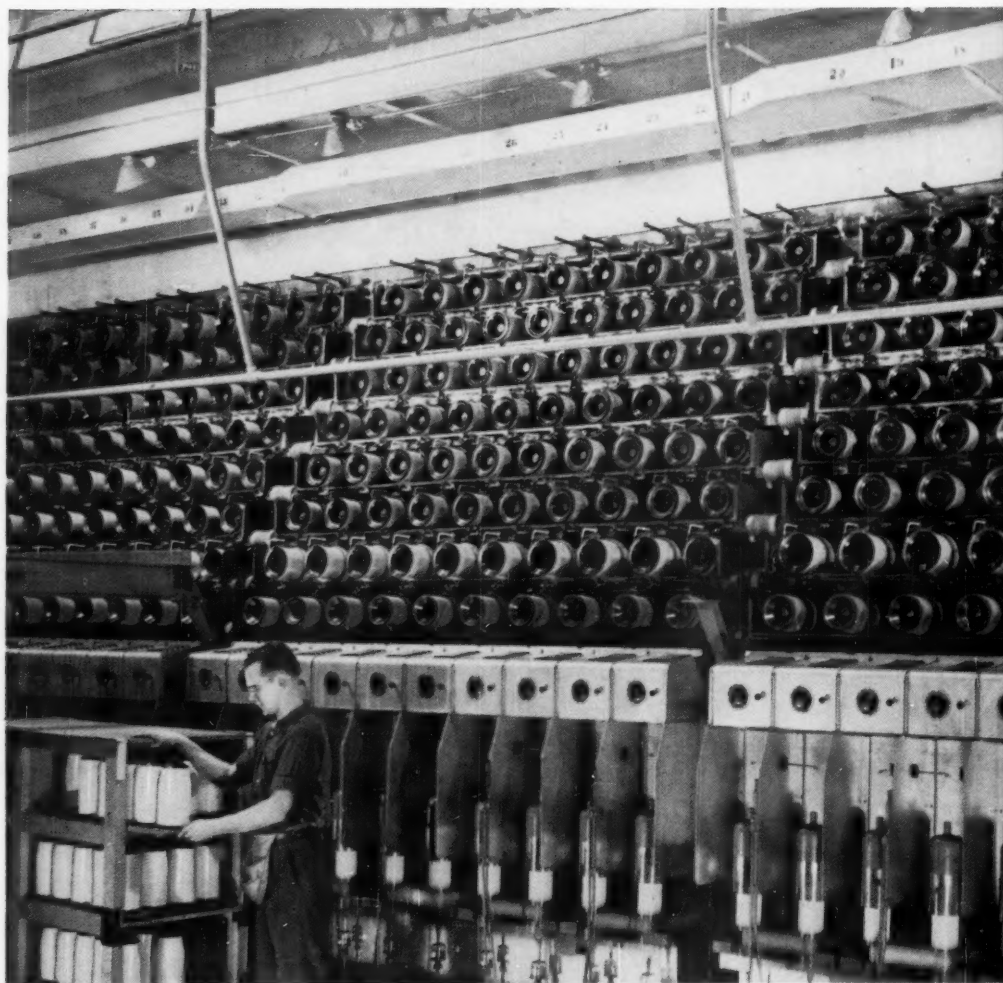
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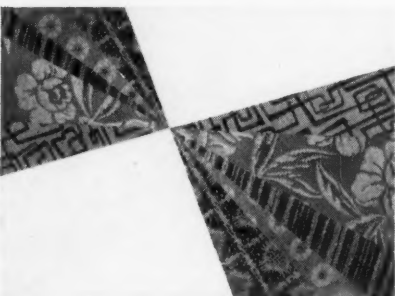
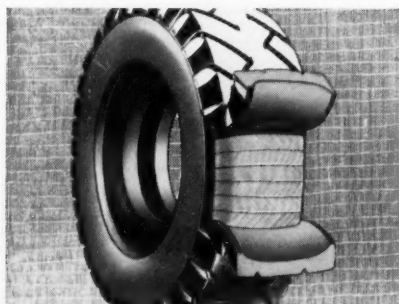
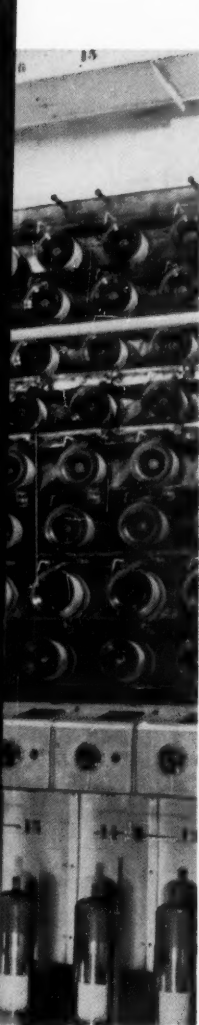
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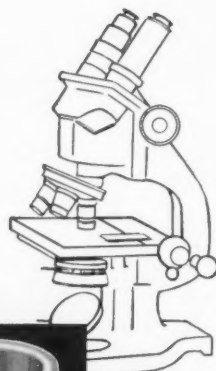


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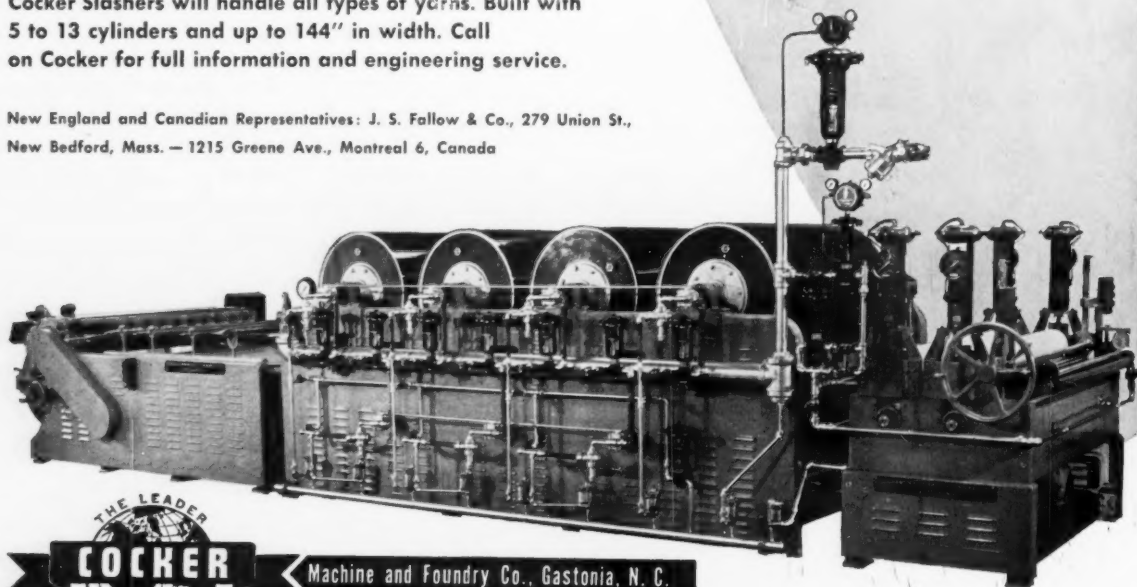
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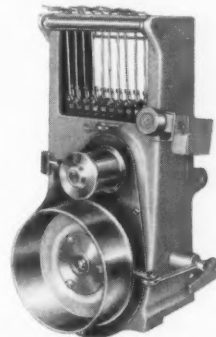
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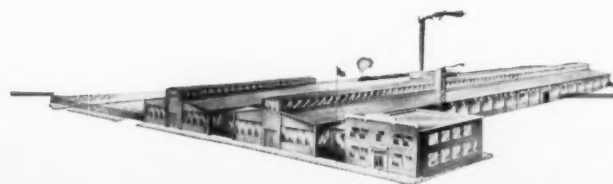
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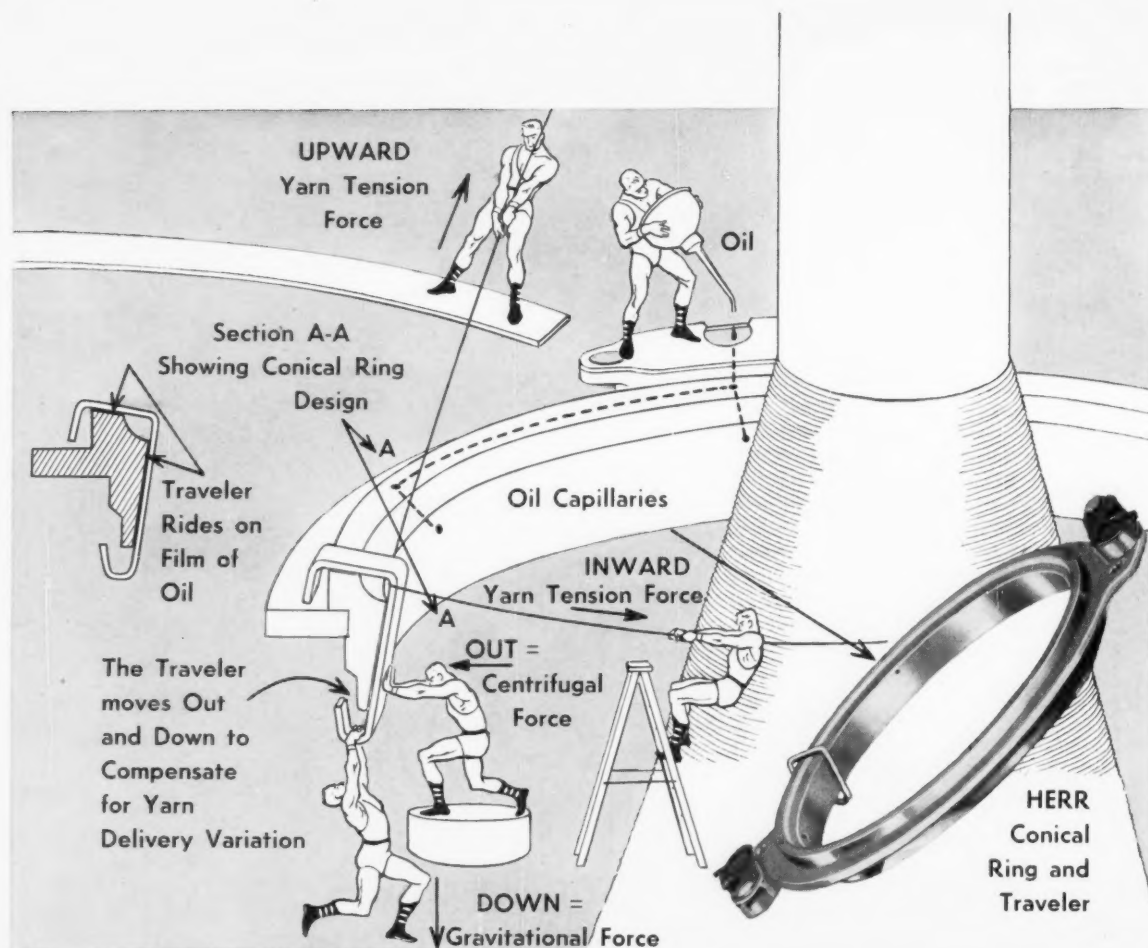
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The universal appeal of superior whiteness is fundamental in the processing of textiles. CIBA's pioneering research in the development of optical brighteners has been a leading factor in raising whiteness standards for textile fabrics. The premier position of Uvitex brighteners is the result of careful development of effective products for specific purposes.

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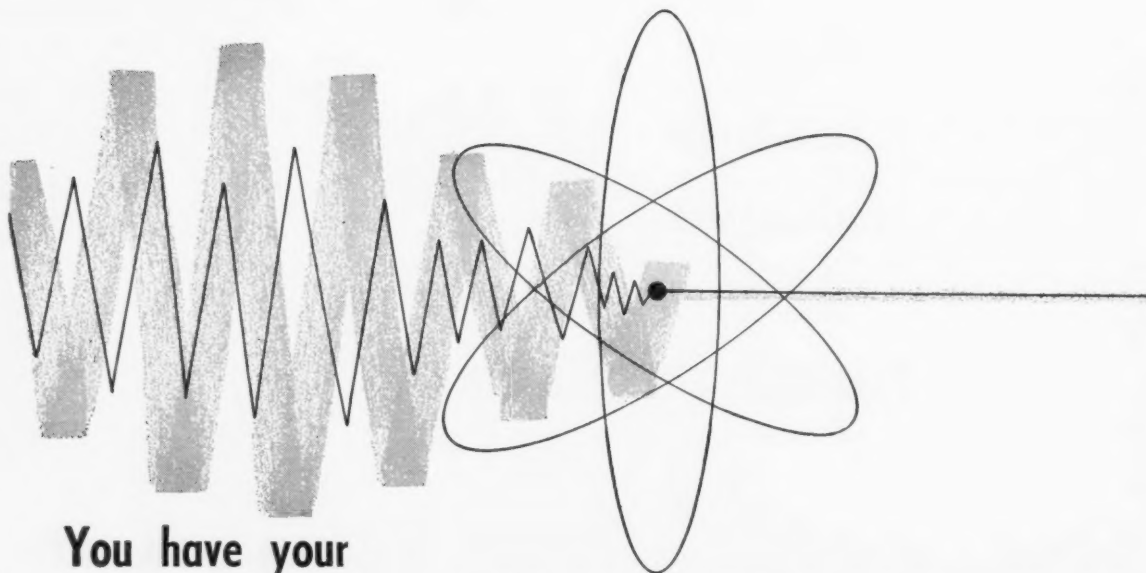
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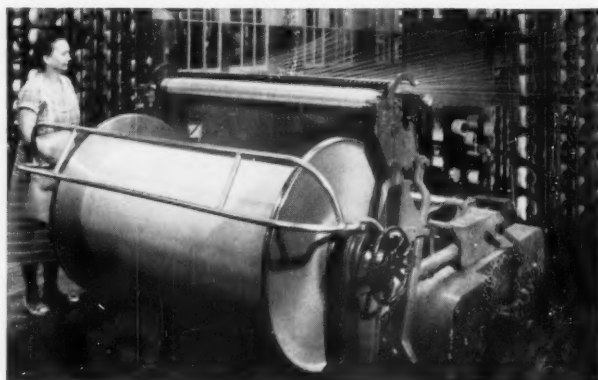
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*Our skilled engineering staff
is available to assist you
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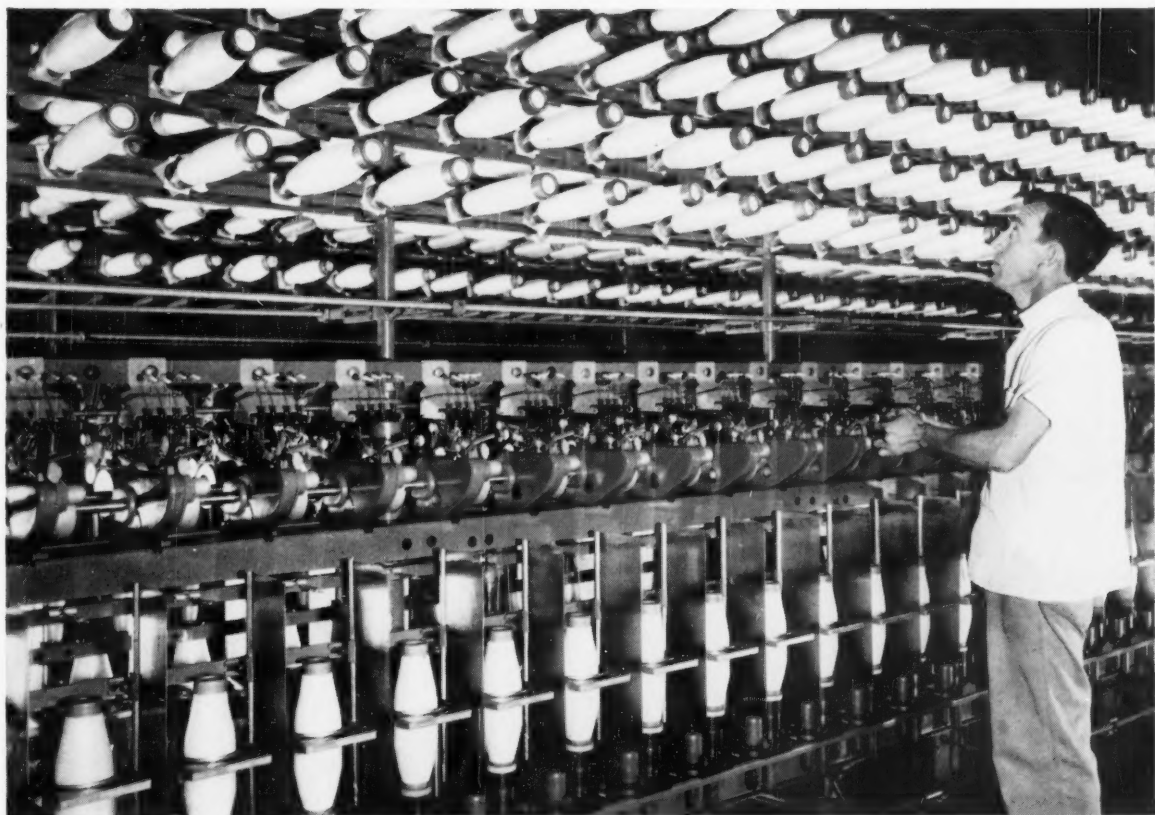
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Leesona Model 10 Ring Twisters processing glass yarn at the Seguin, Texas, plant of the Coast Manufacturing and Supply Company. The firm produces Trevarno Glass Fabrics.

Producers of TREVARNO GLASS FABRICS chose Leesona Model 10 Ring Twisters

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"After evaluating other types of twisting equipment, Coast Manufacturing and Supply Company decided upon the Leesona Model 10 Ring Twister."

Model 10's are used exclusively in Coast Manufac-

turing's 800-spindle twister installation in Seguin, Texas, producing a double-tapered package which can be used directly for filling and warping operations without rewinding.

Versatile Leesona Model 10's can also produce a tapered top or straight wind package. They are ideal for processing not only glass yarn, but rayon, spun rayon, nylon, silk, wool, worsted, cotton and combination yarns, and the new bulk and stretch yarns as well.

Make Your Own Evaluation

See how flexible Leesona Model 10 Ring Twisters can improve your own twisting operations. See your Universal representative or write direct.

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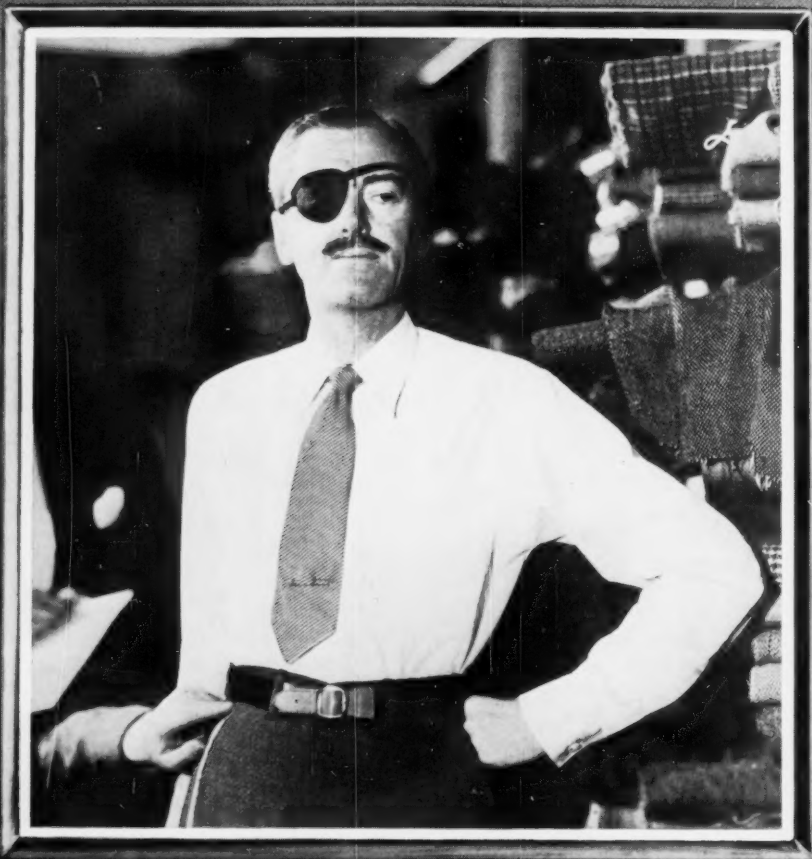


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Another Du Pont fiber success story

DACRON at Filene's

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Merchandising Manager A. W. Fish and Buyer Sam Maletz inspect a shirt of "Dacron" and cotton in one of the many styles and colors that are featured at Filene's.

SAYS MR. A. W. FISH OF BOSTON'S FILENE'S:

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"To trade customers up," says Mr. Sam Maletz, men's wear buyer for Filene's, "we stress the finer tailoring qualities of this shirt, as well as the self-care feature. Repeat sales are easy, because the customer has had the experience of testing the performance of these shirts."

Speaking of performance, Mr. Maletz said that the easy-care, little-or-no-ironing feature of shirts tailored of 65%

"Dacron"* polyester fiber and 35% cotton has great appeal. Customers not only like the convenience of wash and wear . . . but the *economy*, as well.

"We've been bullish on shirts of 'Dacron' and cotton from the start," concluded Mr. Maletz. "And we believe there's a place for at least a couple of these shirts in every man's wardrobe."

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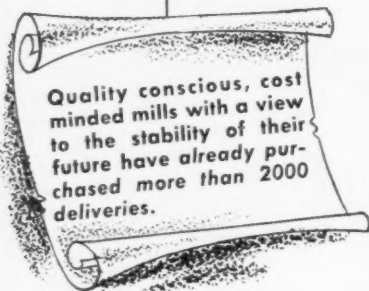
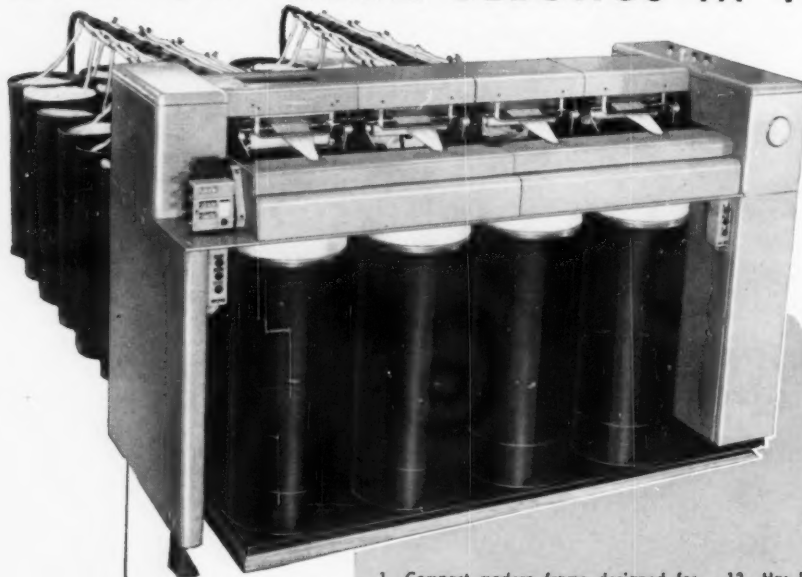
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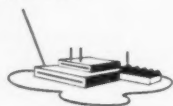
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For full information regarding licensing procedures, The Chemstrand Corporation invites mills and dyehouses to contact The Chemstrand Nylon Sales Dept. at 350 Fifth Ave., N. Y. 1.

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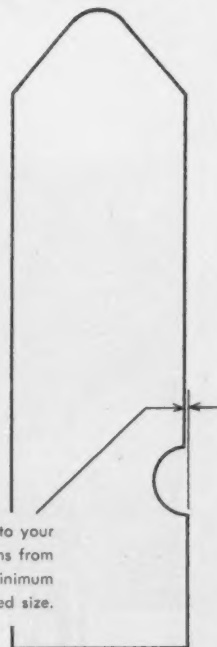
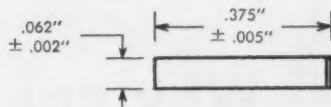


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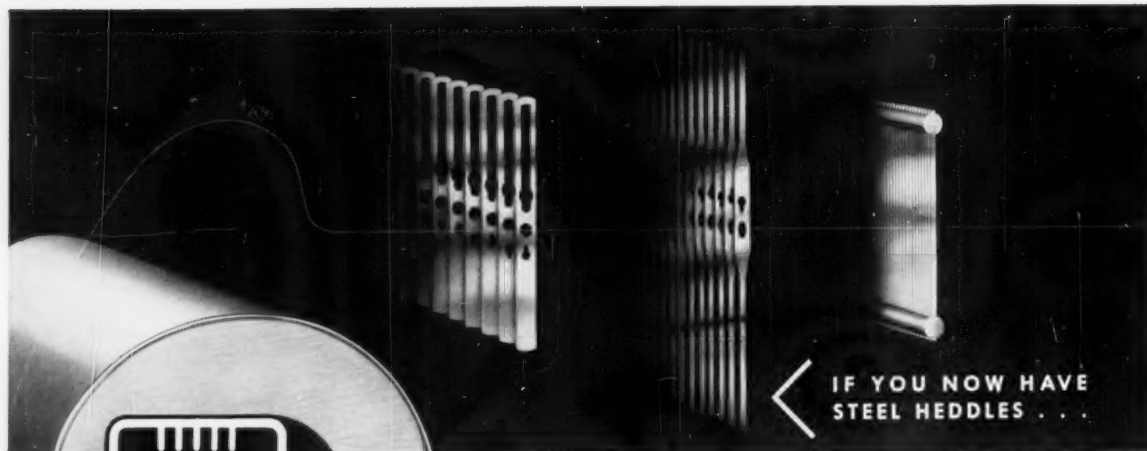


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Publisher's Viewpoint

We Can't Live Without Optimism

In the past month the prevailing climate in the textile industry has improved considerably. After many months in which massed clouds of pessimism seemed to have obscured the sunlight of encouragement, we are happy to report that from all sides we see hopeful signs of brighter days ahead.

The new era of healthy optimism was especially apparent at the Southern Textile Exposition in Greenville last month. Our staff had the pleasant opportunity of talking at length with scores of textile management men, with representatives of leading machinery manufacturers, with spokesmen for virtually every type of supplies bought by textile mills. We also watched and mingled with many thousands of textile mill people, from high-ranking executives down to weavers and battery hands, who crowded the aisles of the exposition all day long during its five-day run.

From the things said by textile men and women at this great show it was clear that optimism was again growing in our industry. The display of new machinery, much of it representing imaginative application of engineering skill, was also part of the picture that conditions were taking a turn for the better in textiles. It was felt by many, that machine builders, who could produce such helpful new developments in spinning, winding and weaving augured well for the future of the industry they serve.

About the same time that the record-breaking crowds at the show were generating a feeling of optimism came additional good news to encourage all textile people. Hope for a solution of the painful threat of low-wage Japanese competition came with an offer by Japan to set a quota for exports of cotton cloth and end products based on 1955 shipments to the United States.

Hard on the heels of this encouraging development came the announcements of pay rises for virtually all progressive segments of the southern textile industry. Meanwhile, in New York and other important textile marketing centers, mill sales departments, commission merchants, and converters began to admit, with wary smiles, that sales of cloth were going at a better rate than for many months past.

All these disparate elements of good news fitted together to make a mighty cheering picture. And now that the outlook for textiles is admittedly brighter than it has been for many months the upturn that is upon us should remind us that, while our recent pessimism might have been easy to fall into, pessimism as a whole is a useless emotion.

To take a determinedly gloomy view of things solves no problems, but in fact makes existing problems seem more difficult. To get business done, to overcome difficult obstacles, optimism is always needed.

Now that the textile industry is again in an optimistic mood, let us strive to preserve and deepen this optimism. Let us strive to make this justified optimism a useful tool to make conditions still better in our industry, and give American consumers better textile end products. And let us strengthen our determination to avoid in the future the easy downslide into pessimism—the pessimism that can subtly paralyze the necessary will to succeed.

A. H. McCallough

PUBLISHER

OUTLOOK

IN TEXTILE MARKETING

By ROBERT C. SHOOK, Textile Economist

Textile revival, here at last, points up need for more production figures, better standards

A pickup in textile activity generally has occurred since our last report on this page. The industry can look forward to further improvement and a stronger price structure. This pickup was anticipated both on cyclical grounds, and by virtue of inventory liquidation which had taken place during second and third quarters.

Inventory Information Sadly Lacking—It is easy to see why the textile industry suffers from lack of adequate information about overall inventories. Although there are some large units among mills, once fabric leaves the mill, it passes on to thousands of concerns at finishing, cutting and converting levels. It is processed eventually into tens of thousands of different types of finished products, and then is distributed by thousands of different retailers, most of whom are also small.

Channels of processing and distribution are so long and complex; the same fabric is used in so many different items; so many different fabrics are used in the same item, that accurate accounting of the inventory flow is difficult if not impossible.

Available Information Not Used Well—Nevertheless, it is hard to see why information available is not enlarged to more adequate basis. Partial reports on fabric inventories, even at mill level, would be substantially improved if broken down to show position of major classes of fabrics. Finishing plants are fairly large in size, and fairly well concentrated geographically. It should be possible to obtain more information about fabrics in process, as well as finished fabrics held in stock awaiting shipments to converters.

Some reports are available on fabric sales. If these could be classified according to type of customer, some comparison could be made with cutting rates, and a deduction made with regard to fabric inventories in hands of cutters.

How Inventory Information Would Help—It can be argued that mill management should have sufficient familiarity with textile cycle to recognize points of danger, and institute more effective control of fabric output. Nevertheless, if better inventory information were available currently to reveal sharp increases in fabric inventory which occur during rising phase of textile cycle, buyers and sellers would become more cautious. Thus extent of fabric inventory excesses would be reduced.

Effective Standards Would Be Useful Now—With a revival of textile activity underway, there is more encouragement to think about possible improvements in merchandising methods and distribution activities.

One marketing activity that has been lacking in textile distribution is systematic effort to increase prestige values of textiles and apparel in comparison with other types of consumers' goods and services. Standards, if they were broad enough, good enough, and properly merchandised, could make an important contribution in this direction.

Consumers Can't Be Fooled for Long—One of the textile industry's serious problems has been an overly large supply of poor quality merchandise which frequently appears on market. Consumers have no way of knowing when quality drops below reasonable standards. Consequently there is no penalty of immediate sales losses for cutter or other processor who participates in quality deterioration.

Vice president and research director, A. W. Zelomek Associates, Inc., 350 Fifth Ave., New York City.

(Continued on page 67)



NEW ASSIGNMENT—After nearly 40 years in the jersey business William Heller has taken on the presidency of Sidney Blumenthal & Co., weavers of pile fabrics. He intends to have Blumenthal earning good money again by next year

By Jerome Campbell

EDITOR, MODERN TEXTILES MAGAZINE

AT AN AGE when many men are entertaining technicolor dreams of a little cottage in Florida in a spot where the fishing is good, William Heller has taken on what he considers the most challenging assignment of a career studded with challenges successfully met. In September he accepted the presidency of the reputable, but ailing, century-old weaving firm of Sidney Blumenthal & Co., Inc., specialists in a wide range of pile fabrics and upholstery cloths.

Heller's assignment at Blumenthal, taken on at the urgent request of a new group of investors, is to get the company back firmly and strongly on its feet. Last year Blumenthal's losses ran close to \$2 million on sales of \$23 million. The year before, the company lost more than \$1½ million on sales of \$18½ million. Heller is convinced that by 1957, his management policies will have Blumenthal back in a profit-earning state. And those who know Heller and his record of magical success in marketing knitted fabrics do not doubt that he will be proven right.

To give the management of Blumenthal all his abilities, William Heller has turned over his famous jersey operation, William Heller, Inc., to his tall, broad-shouldered young son, Ben. The younger Heller, just turned 31, has been working by his father's side in the business since he got out of Bard College in 1948, a philosophy major.

Now established in the pine-panelled president's office at Blumenthal's New York sales headquarters, William Heller seems to be enjoying his new job with the relaxed zest which is characteristic of the man.

Sort of incidentally William Heller has made money in textiles. But more importantly he has enjoyed himself responding to the creative challenge of fabric styling and marketing. Now he has accepted the biggest challenge of his long and successful career

HELLER

has Plans

for

Blumenthal

CHIP OFF THE OLD BLOCK—In joining Blumenthal, William Heller has turned over management of his successful jersey business, William Heller Inc., to Ben Heller (below) his 31-year old son. Ben Heller has already distinguished himself as a knowing stylist and an aggressive merchandiser of high quality apparel jerseys



He is moving fast to put Blumenthal in the streamlined and muscular shape he believes necessary for a textile operation if it is to gain ground in the strenuous rough-and-tumble of today's textile markets.

Notably in the two months since he has taken charge, Heller has cut Blumenthal's inventory of finished goods. He has taken steps to make its sales effort more aggressive, and he has taken in hand the crucial function of styling. New stylists have been hired. Also in the company's plants in North Carolina and Rhode Island, modernization and re-equipping is going forward that will result in better yarns and better fabrics, Heller believes.

It was not the lure of money or the desire to build a big reputation, or the thrill of sitting behind the head man's desk that made William Heller take on the responsibility of restoring to health a sick company. Heller long ago in his jersey business made all the money he wants. Similarly, he has enjoyed for years a tremendous reputation as a textile merchant because of his success in jersey fabrics. And there is no thrill for him in being the boss and making others defer to his decisions. All that, too, he has had for many years.

Strong Creative Bent

The true reason behind his decision to take charge of a faltering weaving outfit lies in the fact that William Heller is by temperament and natural gifts a man of artistic bent. While other people of strongly creative impulses might have directed their energies into music or painting or literature, the circumstances of life have made William Heller an artist operating in business, and specifically in the business of textiles.

As an industry, William Heller points out, textiles is generally held in low regard by bankers and investors and other hard-headed observers whose business it is to weigh the profit potential of various industries. Compared with steel or autos or chemicals, textiles is regarded by financial people, Heller says, as immature, plagued with excessive competition, threatened perpetually by overproduction and hampered by such unpredictable elements as fashion.

All this of course is true, William Heller says, but these weaknesses are only one side of textiles. Actually the textile business is a business of romance, he likes to point out, because it has to do with style, with the desire of women—and men, too—to be attractive, and to create the impression that they are more glamorous than they are. These elements of style and color and the highly changeable desires of consumers for finery are what make our textile industry fast-moving, and forever filled with uncertainties. These are the elements that in Heller's career have been both a stimulant and a means of satisfying his strong creative inclinations.

To bring out new fabrics, to anticipate profitably the trends in that mysterious force, fashion, are activities that in his 40 years in textiles he has found continuously rewarding. Like many creative people working in the arts, William Heller has always taken joy in his achievements as a textile merchant. His success has come easy to him largely because it flowed, not from sweat and tears, but from a happy application of his abundant talents for styling and selling apparel fabrics.

A New York boy, born on Clinton Street in the old east side of Manhattan, Heller's early ambition was to be a lawyer. In his 'teens, he worked as a law clerk, studying law and preparing for admission to the bar. In those days he became known as a highly

efficient process server. His services were much in demand by Manhattan's lawyers, anxious to put legal papers into the hands of litigants whose elusiveness had baffled the talents of ordinary process servers.

But Heller was gifted at an early age, as he is now, with a supreme ability to face the hard facts of life and distinguish them from his own rosy daydreams. His work as a law clerk made him realize that, for a poor boy without connections, success at law would be difficult. He decided therefore, in view of the uncertainties of law, to make his career in the business world. Thus in his early twenties, he took leave of lawyers, court rooms and the fast-footed activities of process serving to find a job as a fabric salesman.

He went to work for the importing house of L. Hecht & Co., a firm specializing in fabrics from abroad. Here William Heller began to find himself. He developed a strong interest in fabrics and style trends, and began to learn about the complex processes by which fabrics were marketed. His zest in selling, his love for fine fabrics and his unerring sense of their fashion potential made him a good salesman. Soon he found himself earning far more and in a far more pleasant way than in his hard-working days as one of New York's most unrelenting process servers. These were the early years of the first World War, but as the war grew older, Hecht found it harder and harder to import goods. Finally his business came to a standstill, leaving Heller without a job.

But the temporary lack of a connection did not bother William Heller; he knew that he had found his *metier*, the field where he was supremely confident he would make his success in life. So certain was he textiles would bring him all he wanted in life that Heller took his freedom from employment as a good opportunity to get married and enjoy a honeymoon unburdened by the worry of getting back to the office.

When the honeymoon was over, Heller went to work for Louis Shour, a sales agent who specialized in jersey fabrics. Within a year, William Heller was in business for himself as a commission sales agent. One of his first accounts was Goldmark Mills, a knitting outfit which some 30 years later was bought by William Heller, Inc.

Off to a Fast Start

By 1925, Heller felt himself sufficiently experienced to set up his own converting operation. From its first year, the new firm of William Heller made impressive profits. Heller's keen sense of style, his ability to sense ahead of time the trend in women's preferences brought the firm a big success in its first season. Somewhere in the market, Heller came across a piece of 14 ounce knitted coating. The fabric was then known, he recalls, as a balbriggan jersey. Today, he says, it would be called a heather mixture. He had the fabric restyled and knitted as an eight ounce dress cloth, tradenamed it "Traetone"—and sold 10,000 yards in his first order. The fabric caught on wonderfully thereafter; in the next few months Heller sold hundreds of thousands of yards, and ended up his first year in business with substantial profits.

From that time on the Heller story was one of continuous success. Heller specialized in jerseys and his business grew right on through the depression years. In fact, except for a few months in 1932 when the firm suffered a short dip into the red, William Heller Inc., made good profits during most of the years of the early and middle thirties.

(Continued on Page 56)

Universal's new machine said to cut costs sharply, upgrade cloth quality

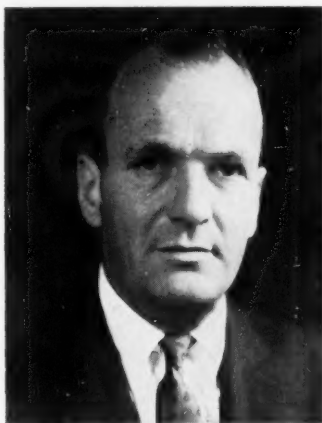
WINDING

BOBBINS ON LOOMS

UNIFIL, a machine that winds filling bobbins right on the loom, was demonstrated recently in a production installation at Hoosac Mills, New Bedford, Mass. The machine was also shown in action last month at the Southern Textile Exposition, Greenville, S. C., where it drew large crowds at the exhibit of its manufacturer, Universal Winding Co., of Providence, R. I.

First demonstrated last year on Draper XD looms weaving filament synthetic fabrics, Unifil was shown at Hoosac handling cotton yarns. At the Greenville demonstration the machine was shown on a loom supplied by Ponemah Mills, Taftville, Conn., weaving red Celaperm acetate filament yarns furnished by Celanese Corp. Ponemah was one of the first mills to place an order for Unifil units after its earlier demonstration last year. A second Unifil in operation at Greenville was on a loom weaving cotton yarns supplied by Hoosac Mills.

Unifil has been rigorously tested under mill production conditions for more than three years—far more thoroughly than most new developments in textile machinery, Robert Leeson, president of Universal declared at the Hoosac Mills demonstration. As a result of these prolonged mill tests and resulting improvements made in the machine, Mr. Leeson said that his company feels that it has completely “debugged” Unifil.



Robert Leeson



AT GREENVILLE UNIFIL DREW CROWDS—Here a staff engineer of Universal Winding Co. explains fine points of new filling winder in a working demonstration on loom at Southern Textile Show.

In an interview at Hoosac Mills, MODERN TEXTILES MAGAZINE asked Mr. Leeson to tell in his own words what Unifil is and what are its advantages over conventional methods of winding filling bobbins. Here are MTM's questions and Mr. Leeson's answers:

What is Unifil?

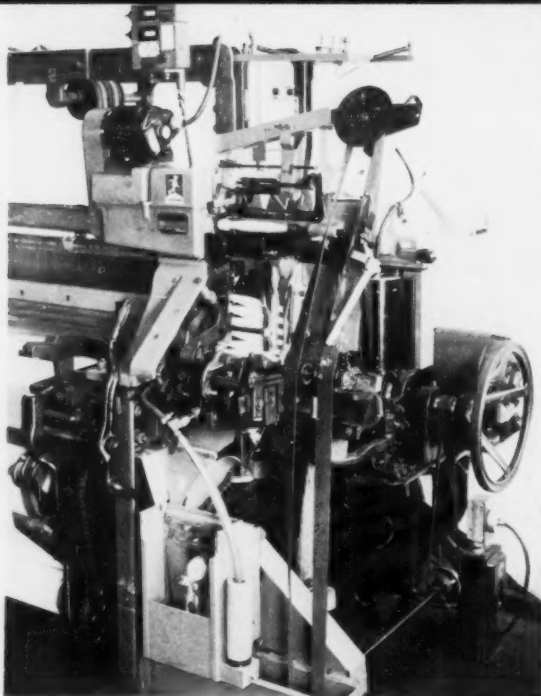
Unifil is a mechanism designed and built right into the loom itself to perform the following cycle of operations automatically: wind filling bobbins; transfer them to the shuttle; strip used bobbins of “tails” of unused yarn; return empty bobbins to the winder.

In a word Unifil brings the whole process of filling preparation right into the weave room and integrates it with the loom. In this important sense, Unifil, it should be stressed, is not an attachment. Nor is it only a winding machine. It is a machine which is made a part of the loom. As such it achieves economies and quality improvements impossible to obtain with any combination of conventional equipment, automatic or otherwise.

Now that we know what Unifil is and what it does, perhaps you could outline for us the mechanical features by which the machine achieves its results.

Mechanically Unifil consists of seven distinct mechanical components all assembled in a compact unit and made part of the loom. They are:

1. A supply creel which holds two yarn packages.
2. A winder unit—this is the heart of the Unifil system. It is a completely new unit which winds bobbins right on the loom and is synchronized to the loom speed.
3. A magazine for empty bobbins. This serves to feed stripped, clean bobbins to the winder.
4. A magazine for full bobbins. This stores the wound bobbins and feeds them into the shuttle as required.
5. A stripping mechanism which receives the bobbins as they are ejected from the shuttle and strips the bunch clean.
6. A conveyor that moves the stripped bobbins to the winder.
7. A modification of conventional bobbins by the insertion of two small wire cleats to pick up the end. This modification serves to eliminate the problem of uncontrolled tails. Incidentally, only 14 bobbins per loom are required with Unifil.



COMPACT MECHANISM—When attached to loom, Unifil integrates so closely with loom mechanisms that it is hard to separate the two. Here Unifil is shown replacing conventional circular battery.

Mr. Leeson, on what kind of looms can Unifil be used?

At present, Unifil can be used on all Draper X type looms with or without bobbies as long as the bobbies are on the right hand side. Unifil can handle cotton yarns and both continuous filament and spun synthetic yarns.

What savings and other advantages will be gained by mills that install Unifil units on their looms?

To begin with, Unifil will eliminate the entire quilling area. Thus it will wipe out quilling room costs including direct labor; maintenance; cleaning; sweeping and floor space charges such as light and heat. Most important of all will be the elimination of conventional quilling equipment.

Are there other savings for the mill that installs Unifils?

Yes indeed. So far we have only scratched the surface. Also eliminated by Unifil will be hauling between quilling, storage, weaving and stripping areas. Battery loading will be eliminated along with the need to pay wages of battery hands. Another big saving with Unifil is elimination of stripping room costs—Unifil, as I have already pointed out, strips bobbins of yarn remainders as part of its operating cycle.

To sum up now, Mr. Leeson, how will Unifil change the conventional mill production set-up?

Unifil, as you can see, brings about a radical new departure in cloth manufacturing in that it abolishes the need for a separate quilling department. This fact alone offers mill managements installing Unifil a really big opportunity to introduce new methods and standards with great potential savings over "traditional" assignments and customs. Keep in mind that Unifil replaces the present hand-filled battery on the automatic loom. It eliminates quill hauling and battery plugging. With Unifil, cone trucking and creeling will be handled in the weave room by a separate unskilled operator. The Unifil itself will be

tended by the weaver as a part of the loom and the weaving operation. Normal fixing on the Unifil will be handled by the loom fixer. For special repairs, a trained maintenance worker can remove the Unifil and replace it with a substitute unit in about two minutes. Thus repairs will be made without interrupting the operation of the loom except for about 50 seconds.

Mr. Leeson, what about cloth quality? Will Unifil help here?

With Unifil all filling in any particular piece of fabric will be wound on the same unit under the same tension conditions from a single continuous supply. Thus there can be no possibility of mixed filling. Also the elimination in the manual handling of bobbins means clean filling and reduces the possibility of shell-offs. All these factors contribute importantly to better, more uniform cloth.

You can see from all these separate elements of cost savings that I have mentioned that Unifil will permit greatly reduced mill operating costs. Our own staff men, headed by our sales manager Jesse Stribling and Carl Sullivan of our sales department, have made careful and detailed studies showing how and where and how much Unifil can save in mill operation.

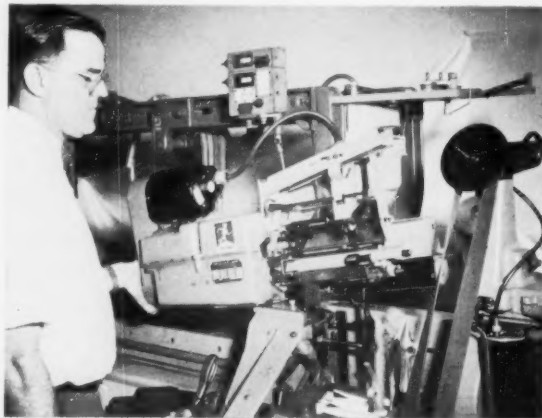
To augment these cost analyses, Universal retained Barnes Textile Associates make a study of the economic value of the 24 Unifil units installed here at Hoosac Mills running on cotton. Barnes' study covers the ten months these units have been in operation here on a two shift basis. Incidentally, we have available for interested mill managements copies of our own cost studies and the study made by Barnes. I might add that Hoosac has bought the units installed here. This company wants to be the first in the cotton industry equipped with Unifil completely.

What is the price of Unifil?

\$600.

Mr. Leeson, based on the cost studies and analysis of economies as achieved by Unifil, how long would you estimate it would take the average mill to get back the price of each Unifil it installs?

That, of course, is a question that can only be answered in terms of rough approximations. Much depends on conditions prevailing at a given mill, the kind of cloth it manufactures and other variable factors. Keeping all these elements of uncertainty in mind, I would say that Unifil will pay for itself in one to four years. ■



QUICK REMOVAL—for servicing, Unifil can be dismantled from loom painlessly and quickly. Operation of loom is only briefly interrupted.



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for rainwear*

New rainwear fashions typify the universal trend to combine beauty and practicality.

In textiles this trend has resulted in a multiplicity of fibers, finishes and blends that makes the dyer's art increasingly complex.

Happily, we are now better-than-ever situated to help you resolve those complexities. Our facilities for technical service are expanding, color ranges are growing and ample stocks of the right dyestuffs are maintained near all major textile centers.

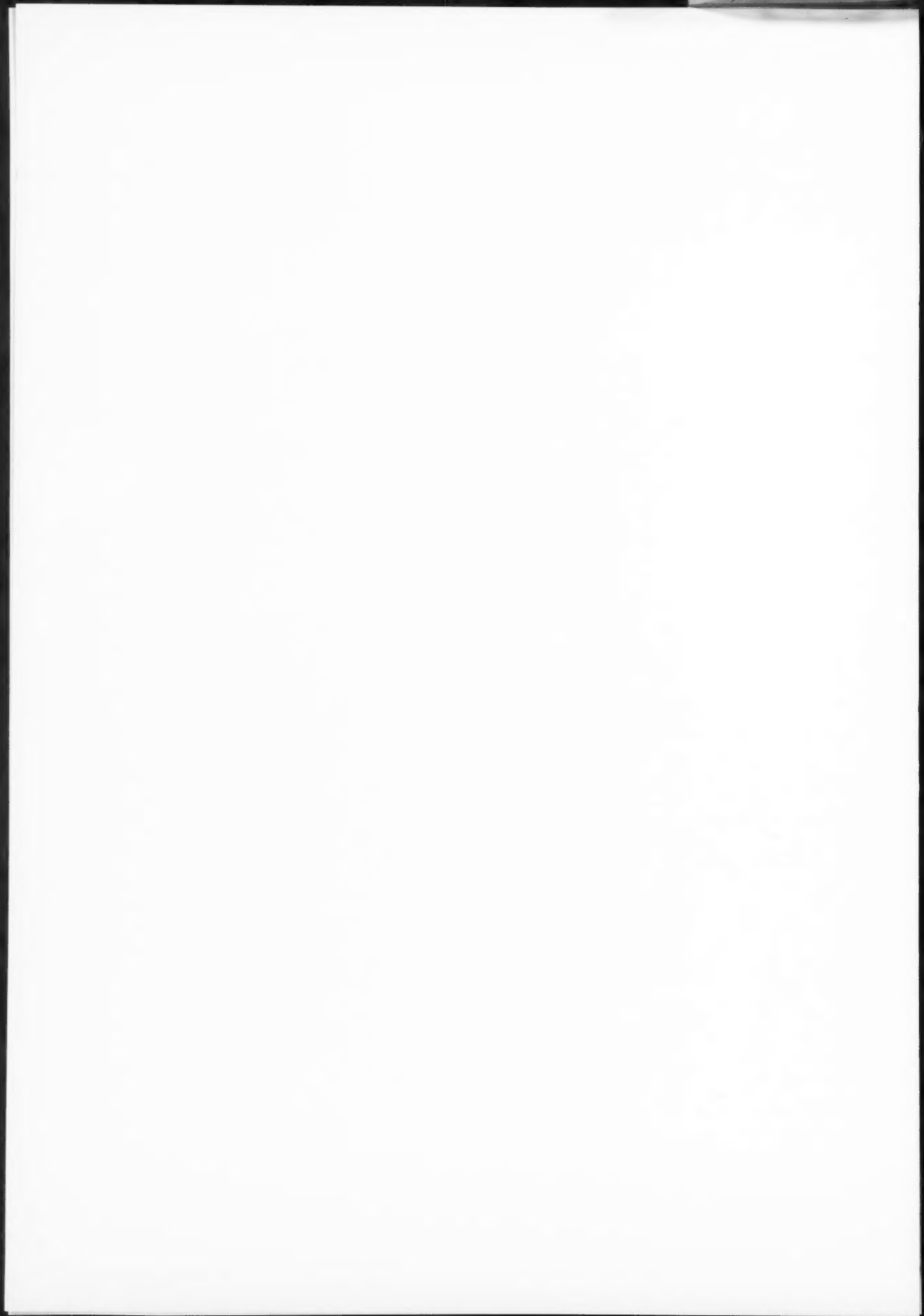
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Raincoat by Claire McCardell



How IRC Nylon Behaves in Carpets

By Dr. T. G. Finzel and Dr. S. M. Fok
INDUSTRIAL RAYON CORPORATION

As a result of increased interest in nylon for floor coverings, we present the second of four articles prepared from a study of carpets made of Industrial Rayon Corp.'s New Nylon blended with rayon.

The results of laboratory tests of crush, recovery and matting characteristics of the carpets are reported in this article. Subsequent articles will report results of additional laboratory tests and end-use service tests. The first installment which appeared in the October issue¹ dealt with the relative cost and appearance factors of various blended carpets at the point of sale.

All of the carpets in this study were 3/16 inch gauge tufted, 7½ stitches per inch, ⅝ inch pile height with approximately 32 ounces of pile weight per square yard. The yarns were all 2/2 c.c. (53/2 woolen count or 840 yds./lb.) 4.25 "Z" x 4.75 "S" made of 15 denier x 3" bright staple. (See October issue for further details).

THE LABORATORY evaluations of carpets in this article are based on commonly used tests and on testing techniques developed by Industrial Rayon Corp. These laboratory testing methods complement actual floor tests which will be reported in a later article. It is hoped that a correlation may be worked out between these laboratory methods and actual floor tests. Such a correlation could result in a considerable saving of time in determining the performance factors of floor coverings.

Because compressional behavior is regarded as one of the more important characteristics of carpets, the major part of the laboratory tests was devoted to it. Compressional behavior (crush, recovery and matting) was studied under both static and dynamic conditions. As generally defined in the carpet industry, crush is the extent to which the pile is compressed under pressure; recovery is the amount of height recovered by the pile after removal of the pressure, and matting is the difference between the original and regained pile heights.

The dynamic tests²⁻⁵ correspond to the effect of walking on carpets while the static phase^{6,7} simulates dead weight loads. The effects of the two types of loads were measured at both short and long intervals of time after removal of the loads.

The results of these tests are summarized in the first half of this article with complete analyses shown in the accompanying figures. The procedures used in the tests are explained in the latter part of the article.

Summary of Results

Static Tests

In the static tests, the seven nylon-rayon blend tufted carpets, all of the same construction, were subjected to dead weight loads for one hour (short term loading) and 24 hours (long term loading.)

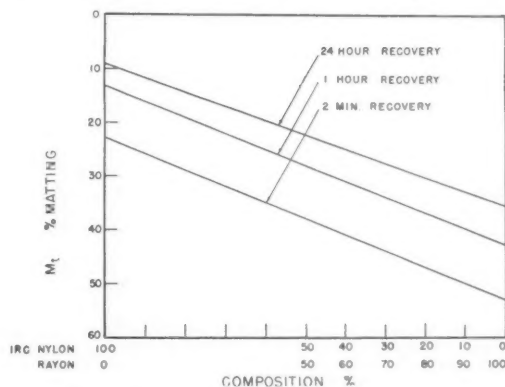


Fig. 1—Matting Trend—Short Term Static Loading Test

Fig. 1 notes results of the short term loading test. It shows that 24 hours after the load of 25 psi was removed, the 100% IRC nylon carpet had a residual matting of approximately 10% and thus had regained over 90% of its original pile height. The 100% rayon carpet had a residual matting of 35%, regaining only 65% of its original height. Fig. 1 also illustrates the contribution of nylon in various percentage blends with respect to matting.

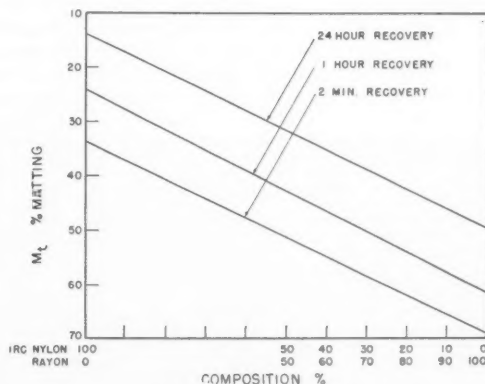


Fig. 2—Matting Trend—Long Term Static Loading Test

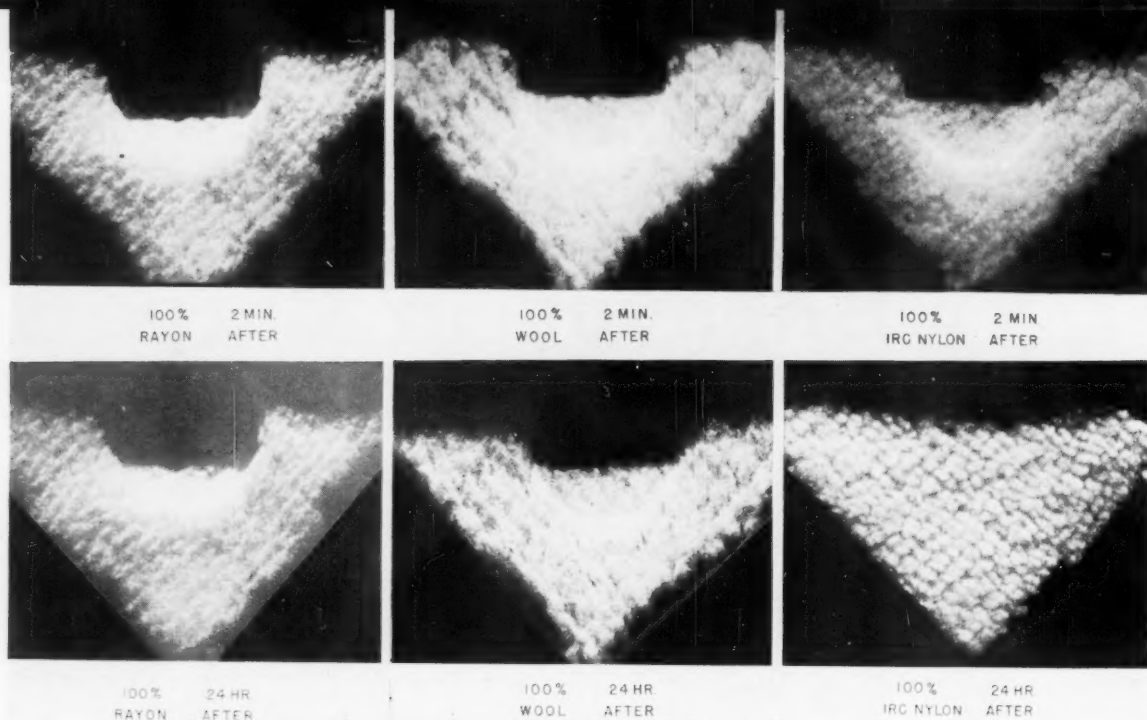


Fig. 3—CARPET MATTING AND RECOVERY
2 Min. Recovery and 24 Hr. Recovery After 24 Hr. Matting (25 psi)

Fig. 2 presents the results of the long term static load test. Twenty-four hours after the load was removed, the 100% IRC nylon carpet had a residual matting of 13%, regaining 87% of its original pile height. The 100% rayon carpet had regained only 50% of its original height, while the carpet with 50% rayon and 50% nylon had regained 68% of its original height. The beneficial effect of nylon when used with rayon in other percentage blends also is noted in Fig. 2.

Fig. 3 pictorially notes the results of part of the long term static load test. The superiority of 100% IRC nylon over both the 100% wool and 100% rayon carpets, with particular respect to recovery 24 hours after the load removal, is shown in these photographs. From a consumer's point of view this means that the 100% nylon carpet under these conditions would restore itself to the point where there is no noticeable impression left, while the 100% wool carpet would show a perceptible indentation and the 100% rayon carpet would have a marked impression.

Dynamic Tests

The dynamic tests were carried out on the Instron Tester (Fig. 4) under a pressure of 25 psi. Tests were made for one-cycle loading in simulation of one step on a carpet; for multi-cycle loading in simulation of

10 steps, and results were calculated for an infinite number of cycles or steps.

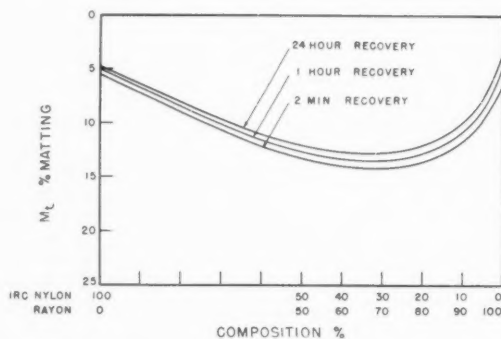


Fig. 5—Matting Trend—One-Cycle Dynamic Test

The results of the one-cycle test for the seven nylon-rayon blend carpets (Fig. 5) show that there is little difference in residual matting between any of the blends and that the matting for all blends falls below the 20% value. This means that in actual service none of the new carpets will show a noticeable impression after only one heavy footstep. The 100% rayon carpet shows the same or even slightly less matting than its 100% IRC nylon counterpart. It is academically interesting to note that in this noncritical test both the 100% nylon and 100% rayon perform better than all of the blends.

In the multi-cycle test (Fig. 6), which of course is more important in a study of compressional behavior, the matting results are radically different from those in the one-cycle test. After 10 cycles of loading and unloading (equivalent to 10 steps), only the 100% IRC nylon carpet had less than 20% matting after a short term recovery. The 100% rayon carpet showed the most matting while the various IRC nylon

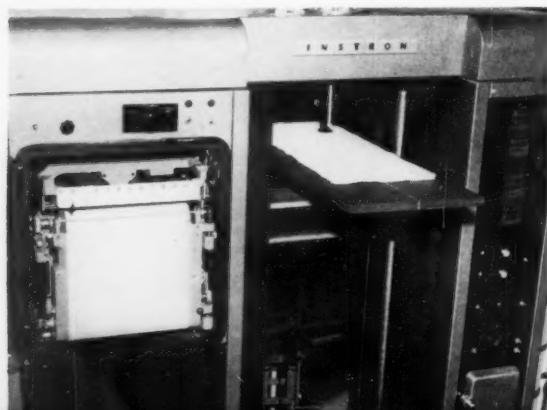


Fig. 4—Instron Tester—Dynamic Carpet Tests

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You will get greatly increased shuttle life and lower maintenance costs when you use Duramold Shuttles because the engineering skill of Southern Shuttles Division has taken this superior material and produced the strongest shuttle ever made.

The method of molding and manufacture of Duramold Shuttles permits much greater versatility of construction, such as tip location, eye location, chamber lengths, shuttle widths, etc.

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Extension of the tough side wall laminates all the way to the tip greatly increases the strength of this section. Wall sections are thicker for greater strength, and the corners at both ends of the chamber are reinforced. Macerated end blocks are molded into the shuttle to provide flexibility for absorbing shock at these points.

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Comparison made them famous



blends were all upgraded by the beneficial effect of IRC nylon.

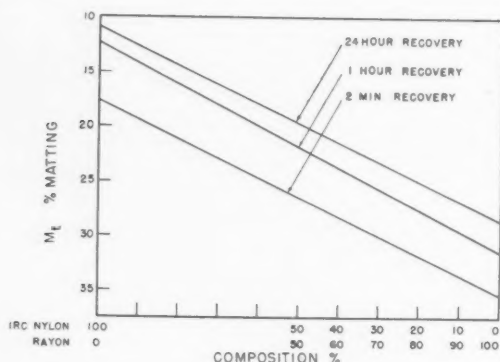


Fig. 6—Matting Trend—Ten-Cycle Dynamic Test

TABLE I
CALCULATED INFINITE CYCLE RESULTS

Carpet Sample	Crush (C _∞) %	Recovery (R _∞) %	Matting (M _∞) %
100% Nylon	72	61	29
50% " , 50% Rayon	77	51	38
40% " , 60% "	76	48	40
30% " , 70% "	76	42	45
20% " , 80% "	77	49	40
10% " , 90% "	75	41	46
100% Rayon	76	42	45

Table I reports the calculated results of the effect of an infinite number of cycles or steps on the carpets. These results show that the carpet of 100% IRC nylon had the lowest crush, highest recovery and least matting. Table I also reveals the important favorable effect of nylon in the blended carpets. The 30% nylon-70% rayon blend appears to be out of line and this is believed to be due to a slight difference in carpet sampling.

Testing Procedures

Static Tests

In the tests for dead weight loads, the compressional characteristics of the carpets were studied by means of a modified thickness gage and a dead weight loading apparatus. The thickness gage was equipped with a 1 inch diameter flat foot to measure thickness within 0.001 inch at 1 psi.² Preliminary study showed that the time of measurement was important. However, under 1 psi load, the thickness reading did not vary much after 1.5 minutes. Therefore, all measurements were made 2 minutes after the foot of the thickness gage touched the top of the carpet pile. The loading apparatus was a 50 pound dead weight with a 2 square inch circular flat foot which produced a static pressure of 25 psi—a pressure found satisfactory in carpet testing.²

Squares of 3" x 3" size were cut from the tufted rug samples. Backing thickness at 1 psi was first determined. The original pile height of each carpet sample was obtained by subtracting the average backing thickness (0.100 inch) from the total carpet thickness measured with the modified thickness gage under 1 psi after 2 minutes.

The static compressional tests were divided primarily into two phases:

1. Short Term Loading with
 - a. Short term recovery (2 min. to 1 hour)
 - b. Long term recovery (24 hrs. and over)
2. Long Term Loading with
 - a. Short term recovery
 - b. Long term recovery

(1) *Short Term Loading*, (Fig. 1): After the original thickness was measured, the carpet sample was subjected to 25 psi static dead weight load in the loading apparatus for a period of one hour. The weight load corresponds roughly to that of an average-size man sitting on a dining chair. At the end of one hour, the static load was removed from the carpet sample and the degree of matting was followed with the thickness gage for various recovery times (from 2 minutes to 24 hours, and in some cases, to 15 days). Based on our experience, short term recovery can be 2 minutes to 1 hour. As for long term recovery, a 24-hour recovery period seemed to be a more practical choice.

Results were calculated as percentage of matting, M_t , from the following formula:

$$M_t = \frac{P_o - P_r}{P_o} \times 100 \quad \text{Equation 1}$$

where M_t is the percent matting after loading under 25 psi for 1 or 24 hours, and recovering under no load for a given period of time (t , minutes).

P_o is the original pile height in inches (total thickness minus backing thickness at 1 psi). P_r is the regained pile height in inches after t , minutes free recovery. The percentage of matting is the difference between the original and regained pile heights expressed in percentage of original pile height.

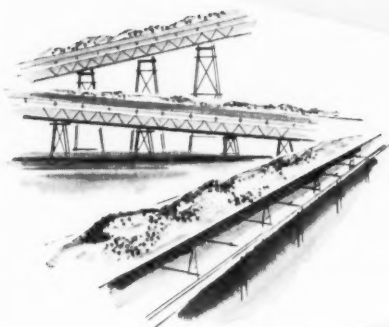
(2) *Long Term Loading*, (Fig. 2): In this phase of the test, the loading period was 24 hours as compared with one hour in the short term loading. All other elements of the test remained the same. The weight load factor in this test might be compared to that of a desk or table left standing on the carpet for 24 hours.

To obtain the pictorial record of the results of this test, (Fig. 3), a profile photographic technique developed by D. G. GRABAR of Industrial Rayon's Central Laboratory was adapted. This technique is similar in principle to that used by TOLANSKY.⁸ In the GRABAR method, the amount of depression of the carpet pile after removal of the 25 psi dead weight is noted from the oblique shadow of a sharp razor blade edge (Fig. 10). This technique was employed in taking the photographs of carpet samples of 100% rayon, 100% nylon and 100% wool shown in Fig. 3. The 100% wool carpet is a control item manufactured from conventional commercial grade popular carpet wool. It was spun into the same count yarn and manufactured into the same greige and finished carpet construction as the nylon and rayon carpets and blends in this study. From the extension of the shadowed area, the residual matting for each carpet sample also can be calculated (Appendix 1).

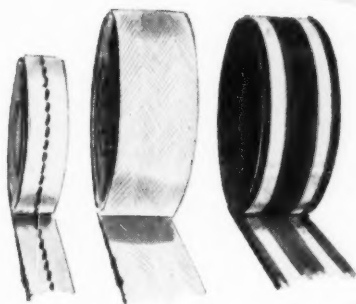
Dynamic Tests

To simulate normal walking on carpets, dynamic laboratory tests were developed using an Instron Tester and the modified thickness gage used in the static tests.

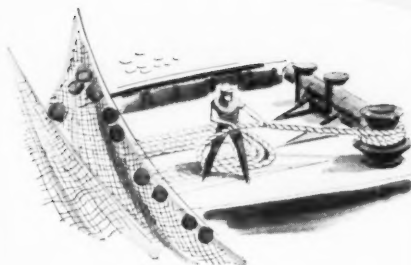
For these tests, a pressure foot having a 2 square inch flat surface was attached to a Compression Load



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Caprolan *tensile-tough* nylon heavy yarns (2000 denier and up) are a completely new yarn class that assures unusual durability and economical performance in such industrial products as duck, webbing, rope and similar constructions.

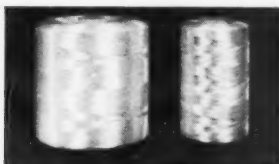
For heavy-duty applications, this new kind of nylon combines toughness, high impact strength, abrasion resistance, long flex life, and — for conveyor belts — excellent troughing qualities.

Where color is desired in nylon, Caprolan also offers a previously unavailable affinity for virtually any class of dyestuff, and can provide quality color rendition of dyes in shorter dye cycles.

Caprolan nylon heavy yarns eliminate the need to ply multiple ends of finer deniers to achieve a higher total effect. They can be engineered as high as 50,000 total denier, according to your specifications, and are put up on a new 30-lb. package as well as on 10-lb. packages.

You will want to look into such Caprolan economies as longer runs between creelings . . . ready dyeability . . . elimination of costly fine denier inventories . . . and the unusual and lasting whiteness of Caprolan that develops no appreciable yellowing in storage.

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cell of the Instron Tester (Fig. 4). The carpet sample on a flat platform mounted on the crosshead was pressed against the pressure foot and subjected to a maximum load of 25 psi. An arbitrary figure of 25 psi was selected to represent severe heavy footsteps. BECKWITH and BARACH³ estimated the average peak load for normal walking up and down stairs to be 12 psi. The response of the carpet under constant rate of compression and release during the whole test was recorded automatically on the chart. All the dynamic tests described here were loaded in the Instron to the maximum load of 25 psi either in one cycle or in multicycles.

1. One-cycle dynamic loading with short and long term recovery (Fig. 5):

The carpet sample, after the original thickness had been measured, was loaded dynamically to 25 psi in the Instron and the pressure released in one cycle in simulation of the first step taken on a new carpet. Then the short and long term recovery was followed by the thickness gage. This was done to avoid tying up the Instron Tester for such prolonged tests.

2. Multi-cycle dynamic loading with short and long term recovery (Fig. 6):

Carpet samples were loaded to 25 psi in the Instron for 10 consecutive cycles, equivalent to 10 steps, and then measured for short and long term recovery with the thickness gage.

3. Infinite number of cycles with immediate recovery (Table I):

To obtain the effect on the carpet of 100, 1000 or an infinite number of cycles or steps, the Instron Tester was set for cycling determinations. In explanation of the testing technique used in this phase of the study, we have included Fig. 7 which illustrates char-

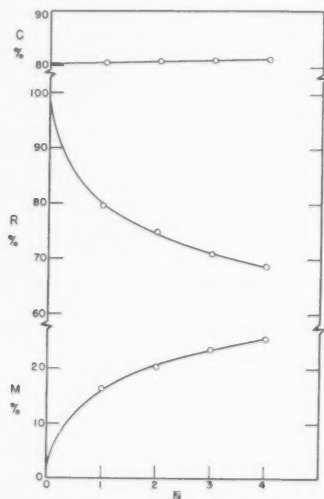


Fig. 7—Cyclic Effect on Crush, Recovery and Matting

acteristic curves depicting the effect of increasing number of cycles on crush, recovery and matting of the tested carpets; Fig. 8 which shows typical Instron curves obtained by cycling, and Fig. 9 which schematically illustrates the action of the Instron pressure foot on the carpet pile.

As noted in Figs. 8 and 9, carpet behavior can be broken down into the following basic height measurements:

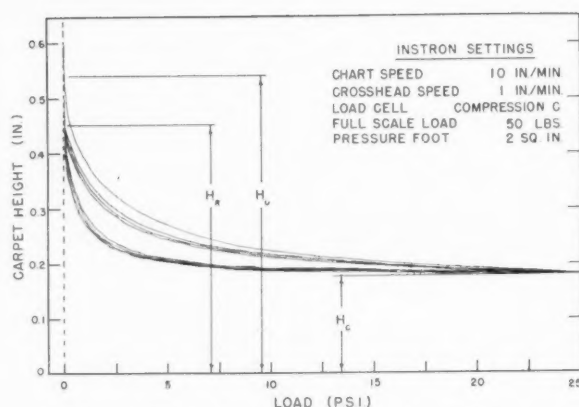


Fig. 8—Typical Dynamic Compression Instron Curve

H_0 —Original carpet height at zero load.

H —Any carpet height at zero load.

H_c —Compressed carpet height at 25 psi load.

H_n —Recovered carpet height at zero load.

B_0 —Backing thickness at zero load.

B_c —Backing thickness at 25 psi load.

Out of these basic definitions, the usual descriptive terms of carpet performance can be expressed more specifically as follows:

Pile Height (P)—Total carpet height (H) minus its backing thickness at zero load.

Crush (C)—The extent to which the pile was compressed at 25 psi, expressed in percentage of original pile height.

Recovery (R)—The increase in pile height after removal of the 25 psi crush, expressed in percentage of height loss due to crushing.

Matting (M)—Difference between the original and regained pile heights, expressed in percentage of original pile height.

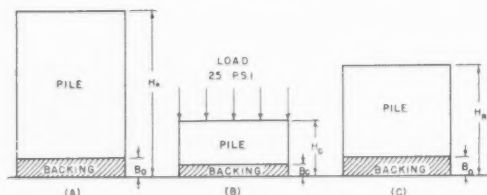


Fig. 9—Schematic Testing Cycle for Carpets

By calculating the crush (C), recovery (R) and matting (M) of the Instron test data (Appendix 2) for each carpet sample, we found that the percent of crush, C, did not change significantly with the number of Instron cycles, N, which may be considered to be equivalent to the number of steps in a floor test (Fig. 7). However, the recovery, R, and matting, M, were found to follow the equations

$$R = 100 - \frac{aN}{1 + bN} \quad \text{Equation 2}$$

$$M = \frac{\alpha N}{1 + \beta N} \quad \text{Equation 3}$$

where N—number of Instron cycles

a, b—recovery coefficients

α , β —matting coefficients

How the **AVISCO** Integrity Program helps you profit from higher rayon quality standards

Virtually everyone in the textile business agrees that long-term quality controls are better for business than short-term sales expediency. Today most consumers must have *confidence* in quality before they will buy.

In the rayon and acetate industry this confidence-building job was undertaken a year ago by the American Viscose Corporation. To provide an incentive for the production of serviceable fabrics containing Avisco fibers, the Avisco Integrity Program was set up.

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Breaking and bursting strength
Yarn slippage
Colorfastness . . . Laundering 160° F.
Croaking
Sunlight 40 hrs.
Atmospheric fading
Chlorine retention . . . AATCC Test 69-52, not more than 25% loss in strength. No appreciable browning.
Shrinkage in laundering (2%) . . . Federal Specs. CCC-T-191a (Cotton Method).

A.S.A.-L22



Breaking and bursting strength
Yarn slippage
Colorfastness . . . Laundering 105° F.
Perspiration
Croaking
Sunlight 10 hrs.
(40 hrs. sptsweat.)
Atmospheric fading
Shrinkage—(2%) . . . Coml. Standards CS 59-44.
Textiles Testing & Reporting (Dept. of Commerce).

A.S.A.-L22



Breaking and bursting strength
Yarn slippage
DIMENSIONAL RESTORABILITY
Colorfastness . . . Cleaning dry and wet
Perspiration
Croaking
Sunlight
Atmospheric fading

A.S.A.-L22

(All foregoing tests apply to woven fabrics. Similar tests for knitted fabrics.)

For further details, call LA 4-7200 or write American Viscose Corp., 350 Fifth Avenue, New York 1, N. Y. We will send you a copy of the requirements and Confirming Order Form. You return completed form with fabric sample of each color in each dye lot. We test these in our labs, and if they qualify we send a licensee agreement certificate to you, and garment tags to your cutters. Cutters affix the tags, retailers display them and consumers *buy*.

For an infinite number of cycles (as in the case after a long term service floor test) it can be shown (Appendix 3) that the recovery (R_{∞}) and matting (M_{∞}) of these carpets can be calculated from the equations

$$R_{\infty} = 100 - \frac{a}{b} \quad \text{Equation 4}$$

$$M_{\infty} = \frac{\alpha}{\beta} \quad \text{Equation 5}$$

The crush, at infinite cycles, (C_{∞}), was determined by averaging the data obtained for the first four cycles.

In the next article of this series, it will be shown how these calculated results compare with data obtained from actual floor tests.

Appendix

1. Profile Photographic Method

In Fig. 10, the general arrangement of measuring carpet depression by the profile photographic technique is shown. The amount of depression, D , of the carpet pile was measured from the oblique shadow of

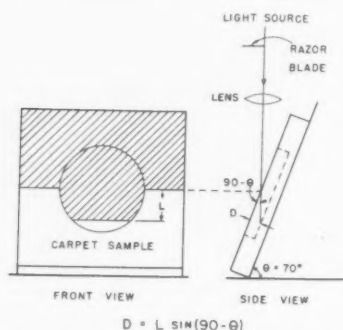


Fig. 10—Profile Photographic Method

a sharp razor blade edge. From the extension of the shadowed area, L , the true depression D could be calculated from the following simple relationship,

$$D = L \sin (90 - \theta) \quad \text{Equation 6}$$

where the angle of incline θ was fixed at 70° throughout our experiments. Residual matting then could be calculated from Equation 1, i.e.

$$M_t = \frac{P_o - P_r}{P_o} \times 100 = \frac{D}{P_o} \times 100 \quad \text{Equation 7}$$

When $L = 0$, D becomes zero, meaning that the carpet has regained its original pile height.

2. Mathematic Equations for Calculation of Pile Height, Crush, Recovery and Matting:

Referring to Figs. 8 and 9, pile height (P), crush (C), recovery (R), and matting (M) can be expressed mathematically as:

$$P = H - B_c \quad \text{Equation 8}$$

$$C = \frac{(H_o - B_o) - (H_c - B_c)}{(H_o - B_o)} \times 100 \quad \text{Equation 9}$$

$$R = \frac{(H_r - B_o) - (H_c - B_c)}{(H_o - B_o) - (H_c - B_c)} \times 100 \quad \text{Equation 10}$$

$$M = \frac{(H_o - H_r)}{(H_o - B_o)} \times 100 \quad \text{Equation 11}$$

3. Recovery and Matting at Infinite Cycles:

Equations 2 and 3 can be rearranged into the following forms respectively:

$$\frac{N}{100 - R} = \frac{1}{a} + \frac{b}{a} N \quad \text{Equation 12}$$

$$\frac{N}{M} = \frac{1}{\alpha} + \frac{\beta}{\alpha} N \quad \text{Equation 13}$$

In plotting the left hand side of Equations 12 and 13 versus N from actual Instron cyclic data, we obtained two straight lines (Fig. 11) with intercepts of $1/a$

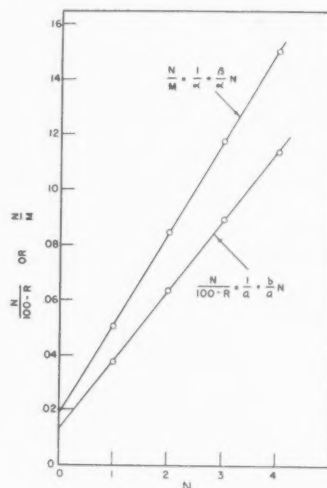


Fig. 11—Linear Plot for Recovery and Matting

and $1/\alpha$ and slopes of b/a and β/α respectively. These can be determined graphically or by means of the least square method.

Equations 2 and 3 can be further simplified at infinite cycles ($N \rightarrow \infty$):

$$R_{\infty} = \left[100 - \frac{aN}{1 + bN} \right]_{N \rightarrow \infty} = \left[100 - \frac{a}{\frac{1}{N} + b} \right]_{N \rightarrow \infty}$$

$$\therefore R_{\infty} = 100 - \frac{a}{b} \quad \text{Equation 14}$$

$$M_{\infty} = \left[\frac{\alpha N}{1 + \beta N} \right]_{N \rightarrow \infty} = \left[\frac{\alpha}{\frac{1}{N} + \beta} \right]_{N \rightarrow \infty}$$

$$\therefore M_{\infty} = \frac{\alpha}{\beta} \quad \text{Equation 15}$$

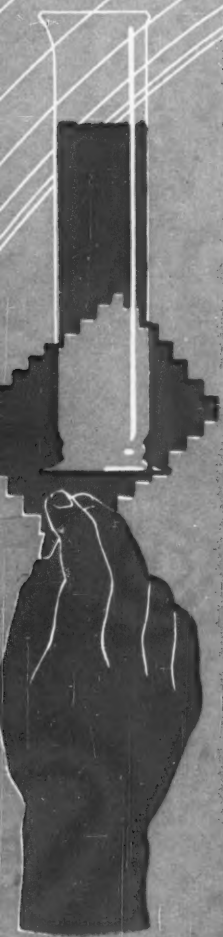
Comparing Equations 14 and 15 with 12 and 13 respectively, it clearly shows that R_{∞} and M_{∞} can be calculated directly from the reciprocals of the slopes of these straight lines.

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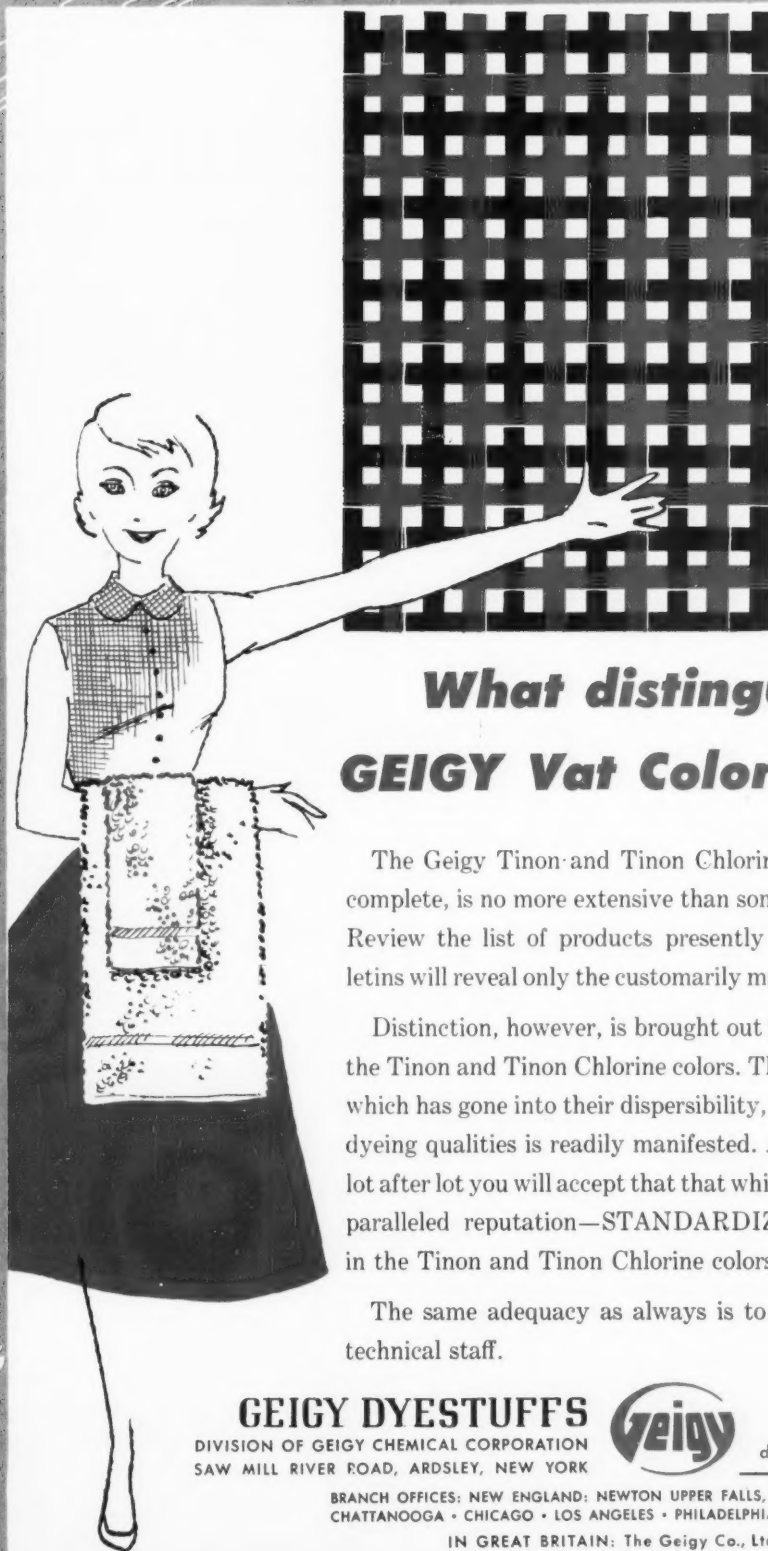
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DYEING *and* FINISHING

Section



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The Geigy Tinon and Tinon Chlorine range of colors while complete, is no more extensive than some other manufacturers. Review the list of products presently available and the bulletins will reveal only the customarily modest Geigy description.

Distinction, however, is brought out in the practical trials of the Tinon and Tinon Chlorine colors. There the meticulous care which has gone into their dispersibility, their stability and their dyeing qualities is readily manifested. And after you have run lot after lot you will accept that that which has made Geigy's unparalleled reputation—STANDARDIZATION—is evidenced in the Tinon and Tinon Chlorine colors as well.

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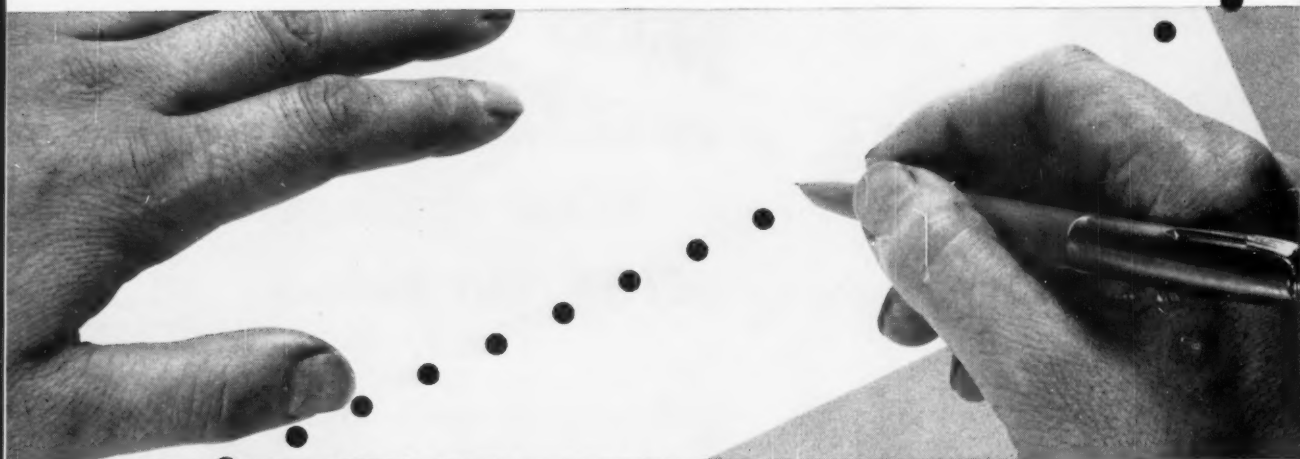


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If you have been buying flake or solid, you may find it a profitable move to switch to liquid.

On the other hand, if you have been buying 50% liquor, you may save substantially by converting to 73% concentration.

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REPORT FROM EUROPE



BY SPECIAL CORRESPONDENT

Conference reviews need for accurate labeling; Overproduction held world-wide textile weakness

PARIS—More accurate and descriptive labeling of man-made fabrics is a “must” in United States as well as elsewhere in the Free World. This was the conclusion established at last month’s four-day conference on quality and labeling, sponsored by International Rayon and Synthetic Fiber Committee.

Fiber manufacturers came in for indirect criticism in this respect. Advertising, it was said, often stresses the new fiber without sufficiently informing on its qualities and characteristics. And, in some cases, fabrics are inadequately labeled.

Fiber Producers Absolved—But many textile representatives—from mill to consumer groups—at the Gothenburg meeting agreed that fiber manufacturers generally were not responsible for many flaws that show up in finished garments. This gap between mill and consumer, filled in by finishers, dyers and garment makers, can often spell difference between good and bad consumer acceptability.

However, this largely insurmountable obstacle can be by-passed, many at the meeting felt, if, as American expert J. B. Goldberg, declared, agreement on minimum performance standards and proper maintenance was forthcoming. If purchaser is told that hot iron should not be used on thermoplastic fabrics, he said, “he is not likely to form an opinion against all man-made fibers.”

Overproduction World-Wide Problem—Several weeks before Gothenburg meeting, J. de Precigout, president of IRSFC, offered an informed opinion, at the group’s annual meeting in Paris, of basic problem facing textile industry.

De Precigout first showed that textile production is outpacing consumption in world, and this supply-demand gap is widening year by year. He cited cotton as primary example and then pointed out how resultant weakening in this natural fiber constitutes threat to entire textile industry—including man-made fibers.

Solution Held Difficult but Vitally Necessary—The IRSFC head noted a recent United Nations report which underscored “fabulous effort” that would be needed to raise world consumption by as little as one per cent. He warned that textile manufacturers must not delude themselves into believing that they can hope—in the reasonably near future—to expand sales as part of world movement toward higher living standards.

But he urged that greater efforts be made to determine world needs for textiles, taking population growth into account. This study should be made, fiber by fiber in view of the substitution of one fiber for the other that is possible, he said. He urged that all appropriate national and world bodies coordinate such study before whole textile industry falls under the weight of excessive supply.

Germans Negotiate with Japanese—Latest move in Europe’s battle against Japanese textile imports began a couple of weeks ago in Bonn when German and Japanese trade officials got together to talk over new trade pact to supplant the one ending next March 31. Germans will try to put more of a clamp on Japanese textile imports.

Same kind of situation just took place in Brussels. For the second straight year, Belgian government decided to levy maximum quota on Japanese rayons. Last year it was for 200 tons, this time it will be halved to 100 tons. It might be noted in passing that Belgium recently renewed its Russian trade agreement. It includes Belgian exports of 1,500 tons of rayon yarns and 1,000 tons of fibers. Fabelta, which has been shipping to Russia since 1948, has already hit as much as 4,000 tons a year of exports.

MILL TEST PROCEDURES

a new series on quality control

By Norbert L. Enrick*

General Tests for Better Mill Operation

Sixth in a Series

THE HEADING of general tests is intended to cover those procedures which cannot be specifically assigned to carding, drawing, roving or spinning, but are applicable to several of these operations. In particular, the procedures described here are:

- Sizing Tests for Sliver, Roving and Yarn
- Roll Settings Check
- Drafting Roll Out-of-Roundness Check

In each of the procedures, the purpose, method of sampling and testing, and evaluation and interpretation of test results are covered. The background thinking behind these procedures is further elaborated below, from a viewpoint of general considerations of choice of method and frequency of testing.

Sizing Tests for Sliver, Roving and Yarn

These tests are designed to control each processing stage, from a stand-point of assuring that weights of sliver, roving and yarn conform to the desired standards. An innovation against prevailing practice is the recommendation to reel five-yard lengths of sliver in place of the customary one-yard boardings. The careful reeling of such lengths has the advantage of a more representative specimen length, and more reliable test results. Suggested sampling trucks to facilitate reeling right off the frame, are shown in Figures 11 to 14. Also, a suggested sizing test form is shown in Figure 15. While the frequencies of sizing will vary considerably from mill to mill, Table II is a typical example from a well-controlled print cloth mill.

* Institute of Textile Technology, formerly with Werner Textile Consultants.

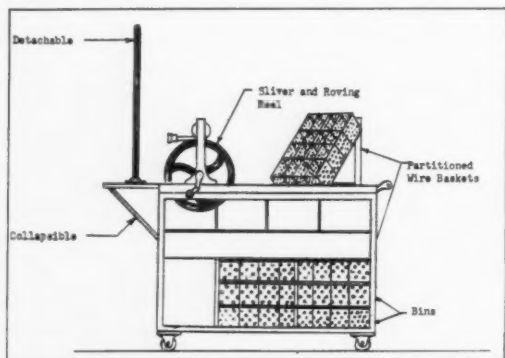


Fig. 11—Sampling truck for collecting sliver and roving in the mill. Partitioned wire baskets facilitate conditioning of stock in controlled laboratory atmosphere.

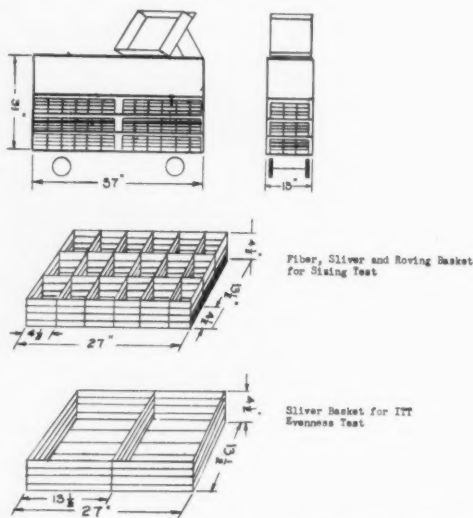


Fig. 12—Dimensions for use in building sliver and roving collecting truck. Collecting baskets are also suitable for other sampling purposes.

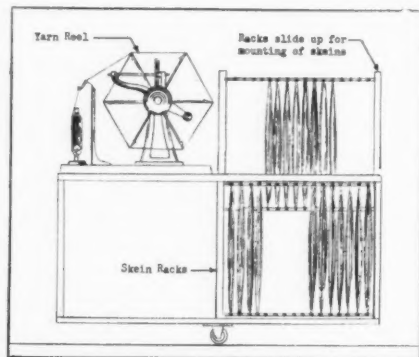


Fig. 13—Sampling truck for collecting yarn skeins in the mill. Racks are in upper position for mounting of skeins, slide down to lower position for storage on truck.

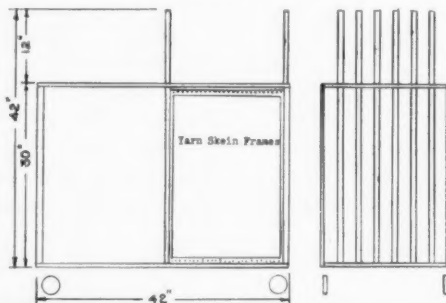
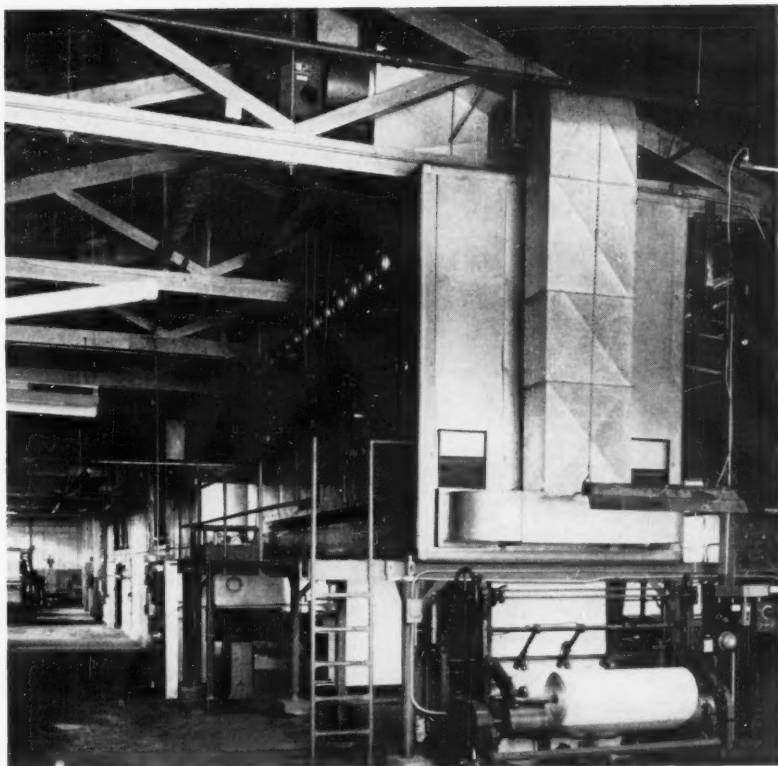


Fig. 14—Dimensions of yarn sampling truck.

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Mr. Vincent Tancredi, President of CREST TEXTILE PROCESSING, INC., Paterson, New Jersey, reports an increase of 400% over previous production, with greatly improved quality and uniformity, since installing their new "National" Model HR-6 Roll Curer and "National" Gas-Fired Tenter Dryer.



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Crest Textile Processing, Inc., have discovered what other Finishing Plants have also proven . . . that in no other Roll Curer can they get anything like the production—uniformity—quality provided by the "National" HR machine.

Through more critical control of the essential elements—heat, air circulation, and tension of cloth—this machine has established new standards for

curing speeds; uniformity of curing; and quality and hand of the product. It is now possible to control shrinkage to the point where either thick or thin hand can be produced while eliminating break or pinch marks and uneven curing. Because of its precision engineering, compact design and rugged construction there is virtually no maintenance.

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Table II: TYPICAL LABORATORY SIZING SCHEDULE

Process	Frequency	Cycle	Machines Tested	Method of Sampling	Testing Data to be Recorded
Carding	Weekly	10 weeks	10 cards	4 five-yard lengths per card	Average and Range for each Card
Breaker	Weekly	5 weeks	12 frames, 1 delivery/frame	1 five-yard length per delivery	Average for entire Room
Drawing	Daily	5 days	12 frames, 1 delivery/frame	1 five-yard length per delivery	Average for entire Room
Slubber	Daily	2 days	6 frames	4 bobbins per frame	Average and Range for each frame; also Room Average
Spinning	Daily	5 weeks	4 frames	4 bobbins per frame	Average and Range for each frame; also Room Average

Note: Retest any high or low card, and any high or low roving and spinning frames.

SIZING REPORT

Count and Mix					
Frame No.					
Delivery or Bobbin No.	1				
	2				
	3				
	4				
Total					
Average					
Range					
Mix or Count Average					
Date:				Tested by:	

Fig. 15—Suggested Sizing Test Form

Settings and Out-of-Roundness of Rolls

The maintenance of proper distances between rolls for the particular staple processed, and the keeping of roll eccentricity to a practical minimum, are important factors in the mill's attainment of good quality. Primary responsibility usually rests with the maintenance crew in charge of setting the frame, periodic scourings, and periodic roll buffings. Yet, as a control of this operation, many mills find it desirable to have the quality control laboratory perform periodic checks. Such checks are usually not performed more often per frame than once every ten weeks, nor less frequently than once every twenty to twenty-five weeks. The effect of undue out-of-round-

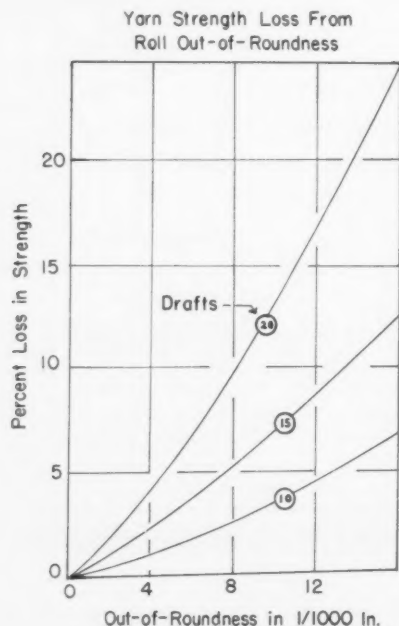


Fig. 16—As shown by these curves, strength loss due to eccentric rolls increases with higher drafts. (Material adapted from graphs provided through courtesy of Werner Textile Consultants)

ness of rolls is illustrated very forcefully by the diagram in Figure 16, showing the loss in strength of yarn resulting from this condition. It is apparent that the effect of out-of-roundness becomes increasingly important after four to five thousandth of an inch, and becomes more and more marked the higher the draft. A convenient test recording form is shown in Figure 17.

ROLL SETTINGS CHECK

Werner Tex. Cons.
New York 17, N. Y.

Branch: _____ Department: _____ Equipment: _____

Machine Type:		STANDARDS			
Make & Year					
Count & Stock					
Front Zone					
2nd Zone					
3rd Zone					
Back Zone					

Frame No.					
On Std.					
Off Std.					
Corrected					
Frame No.					
On Std.					
Off Std.					
Corrected					
Frame No.					
On Std.					
Off Std.					
Corrected					
Frame No.					
On Std.					
Off Std.					
Corrected					

OFF-STANDARD RECORD						
Machine No.	1st Check On	1st Check Off	Date Reported	2nd Check On	2nd Check Off	On Std. (date)

If there are any remarks, check here ☐ and use other side of this form.

Date: _____ Tested by: _____

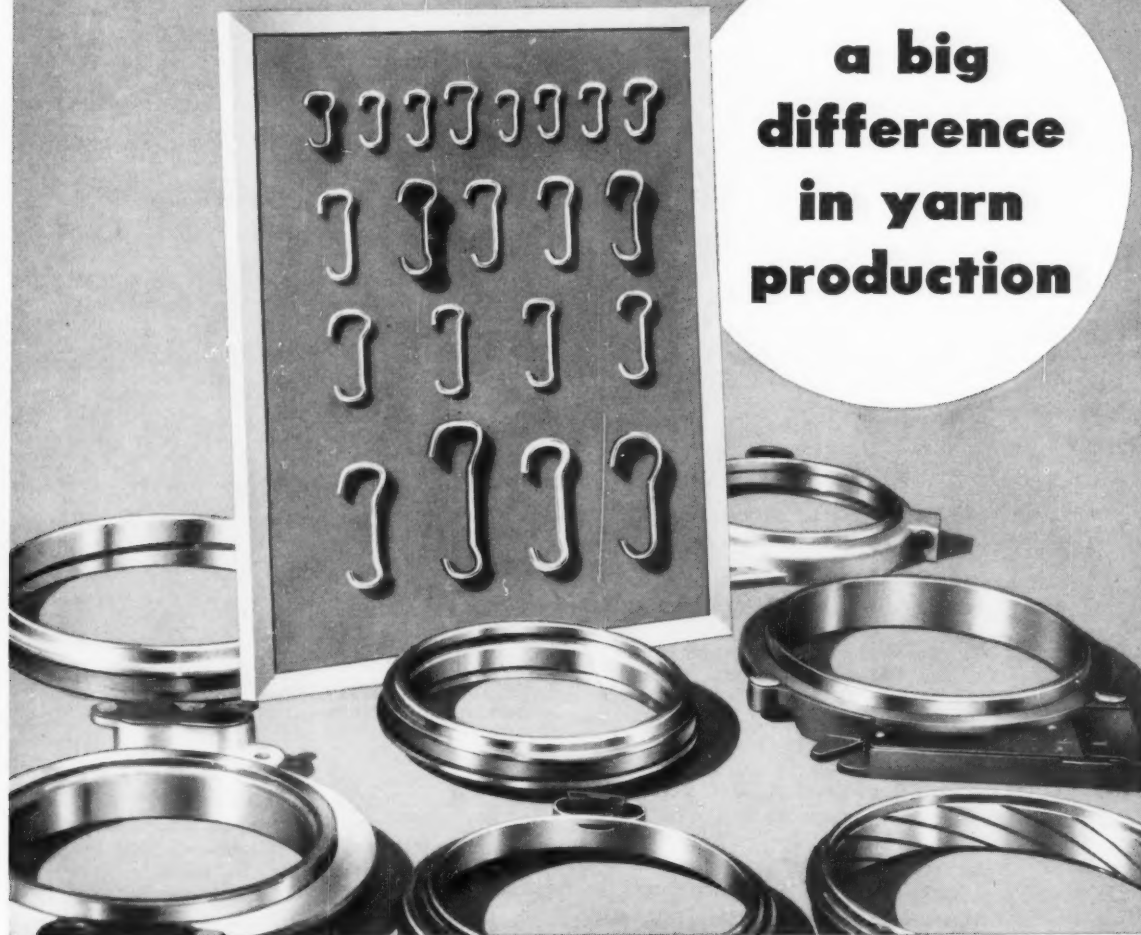
Fig. 17—Convenient Test Recording Form for Roll Settings Check

Additional Tests

Additional tests applicable to the several processing stages in a yarn mill are to be covered in a separate second part.

A little difference in travelers can make —

**a big
difference
in yarn
production**



THE DIFFERENCE between various styles of travelers made for lubricated vertical rings, may be hard to see at a glance. But it's a very important difference.

Unless the traveler design is exactly right for the ring, much of the advantage of lubrication will be lost. Also, unless the design is exactly right for the yarn being processed, ends-down will cut

production, and quality will suffer.

Whether you are running novelties like boucles, poodles, or seed yarns, — or twisting the heavier stocks normally processed on lubricated rings, Victor has the right vertical travelers to keep your production trouble-free.

You'll find it well worthwhile to check over your operations with a Victor Service Engineer. He can

often show you that "headaches" you've taken for granted can be readily cured. Write, wire, or phone the nearest Victor office.

VICTOR VERTICAL TRAVELERS

representative of the styles commonly used on lubricated rings are described in this folder, with useful information on selection. Ask for Form VTN.



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VICTOR
Ring
Travelers

SIZING TESTS FOR SLIVER, ROVING AND YARN

Purpose

To control sliver, roving and yarn weights and to minimize variations in the final yarn number.

Equipment

Roving reel for sliver and roving; yarn reel with 1 1/2 yard perimeter; Direct reading grain scale; direct reading yarn number scale. Sizing truck for reeling of samples near the frame, and transporting samples back to laboratory.

Sampling

Follow the procedure tabulated below:

Product	Measurement in	Yardage per Weighing	Conditioning Time in Hours
Sliver	Grains per Yard	5 reeled yards	One
Roving	Hank Roving	12 reeled yards	Two
Yarn	Yarn Number	120 yard skein	Overnight
Plies:			
Over 20	Equivalent single yarn number	60 yard skein	Overnight
3 to 20		24 yard skein	
Below 20		12 yard skein	

Procedure

Carefully reel, weigh and record the product to be tested, as shown in the sampling schedule above. During reeling, make sure no undue acceleration or deceleration of speed occurs, which would insert variable stretch and thereby cause inaccurate results.

Evaluation

Find the average and range for each frame tested. Data may be further summarized by determining daily averages and weekly averages, by stock and size.

The data obtained are used in deciding when and where it may be required to change gears in maintaining desired weights from sliver through yarn, as part of an overall yarn count and cloth weight control program.

ROLL SETTINGS CHECK

Purpose

The setting between any pair of drafting rolls is the distance between their "bites" or "nips." For each type of stock processed, this distance must be carefully determined and uniformly applied, if uniform yarn, good strength and low ends-down are to be maintained throughout the mill. The present test serves to check on maintenance of proper roll settings.

Equipment

Double V-block setting gage.

Procedure

1. Stop the frame and lift clearers on points to be tested.
2. Place the fixed V-block in the center of the first line of top rolls, and hold it firmly in place with one hand, making sure that the roll does not move in the cap bars.
3. With the other hand, center the movable V-block over the next line of top rolls.

4. Lift the entire gage and read the setting to the nearest 1/32 inch.
5. Repeat this procedure for all rolls, top and bottom.

Testing Points

A list of usual testing points on each type of frame is shown below.

Type of Equipment	Center	Both Ends	Both Sides
Sliver Lapper and Ribbon	X		
Lapper, and Comber	X		
Drawing	X	X	
Roving	X	X	
Regular Draft Spinning	X	X	X
Long Draft Spinning	X		X

Evaluation

Record and average the readings for the top and bottom rolls at each test point, noting any off-standard results.

DRAFTING ROLL OUT-OF-ROUNDNESS

Purpose

Uneven rotation or vibration of drafting rolls, due to wear of rolls and bearings, or bending of shafts, will produce non-uniform drafting. This in turn will result in uneven and, where drafts are high, in greatly weakened yarn. It therefore requires close attention and control.

Equipment

Dial gage, sensitivity 0.0005 inch, capacity 0.01 inch, mounted on a magnetic base.

Sampling

On drawing frames, each roll should be tested. On roving and spinning frames, usually only rolls exercising a draft of over 2 require testing, sampled as follows: One roll position from the center of the frame; two roll positions from each of the ends of the frame.

Procedure

1. Remove top clearers and, where bottom rolls are to be tested, remove top rolls.
2. While the gage is resting on a firm part of the frame, such as the roll beam, place the gage head against the roll to be tested.
3. While the roll is rotating (manually or machine), observe the highest deflection of the dial gage needle. This represents the out-of-roundness of the roll in terms of thousandth of an inch.

Evaluation

Compare the actual out-of-roundness found against the allowable tolerance, noting any off-standard rolls. The following tolerance limits, if exceeded on front rolls, usually call for corrective action:

Type of Frame	Tolerance in Inches
Drawing	0.003
Roving	0.004
Spinning, Regular	0.005
Spinning, High Draft	0.004

Where accumulated records show a chronic occurrence of off-standard conditions, frame maintenance and roll buffing schedules may need a review and revision.

For Caustic Safety

A caustic soda handling chart, including information on how to use caustic soda safely, personal protective equipment, and first aid treatment, is now available from Food Machinery and Chemical Corp., 161 E. 42 St., New York City. Free copies will be sent upon request.

Increase in Price of Kolorbon

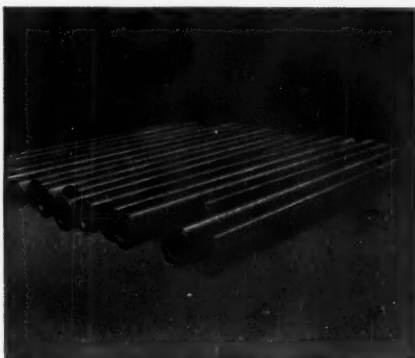
Hartford Rayon Co. has increased the price of Kolorbon, its solution-dyed carpet rayon staple fiber, to 48¢ a pound in both 8 and 15 deniers, effective October 17. Prices in all other colors remain the same. Melon, a new color, is also priced at 48¢ a pound.

HERESITE

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SOLUTIONS STORED IN HERESITE LINED TANKS ARE MAINTAINED FREE FROM CONTAMINATION AND CANNOT DISCOLOR THE SPINNING BATH SOLUTION.

HERESITE Provides

Protection of Metal Machine Parts
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Many Rayon manufacturers have availed themselves of the protection afforded by Heresite. The unique properties of this coating include chemical resistance and mechanical strength. The general value of Heresite to the rayon industry is demonstrated by its ability to prolong the life of

Traverse bars and arms . . . Complete cake wash machines . . .
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HERESITE & CHEMICAL COMPANY

MANITOWOC, WISCONSIN

Eastern Division: 546 South Avenue, Garwood, N. J.

William Heller

(Continued from Page 34)

The war years beginning with 1941, during which so many existing fortunes in textiles were made, were not years of expanding profits for William Heller. He had a son in the army and a son-in-law in the Navy. He was more interested in seeing the war end victoriously and the safe return of these young men than in sharing in the great and easy boom in textiles of those years.

Heller stayed in business, "sticking" as he says now "to my knitting", trying to keep up the quality of the fabrics he made, and not seeking to sell increasing yardage. Actually, as the war went on, each year saw William Heller Inc.'s gross sales and net profits go lower and lower. But this did not bother Heller. He was already comfortably fixed, as wealthy as he needed to be. The idea of getting richer on wartime profits did not interest him.

But once the war was over, William Heller, Inc. came back into the fabric market with a zest for growth. Heller realized that a great new era for jerseys as smart fashion fabrics had dawned. The possibility of pushing jerseys higher on the ladder of fashion; of upgrading them by production of better grades of fabric; by adding ease-of-care properties with the use of the newer man-made fibers—all these factors once more stimulated the strong creative sense of William Heller.

He brought out new types of jersey cloth, jerseys with texture innovations, printed jerseys, a dizzying variety of high-style novelty constructions. To strengthen its operation in a market where supplies were sometimes tight, and to insure strict control of fabric quality, Heller began to acquire knitting plants, spinning mills, dyehouses. Among these were the Luxor plant at St. Johnsville, N. Y., a well-equipped tricot mill; the Goldmark Knitting Mills and the Pawtuxet Valley Dyeing Co.

Sticks to Converting Approach

Acquisition of mills and dyeing plants has not changed the essential nature of the Heller jersey operation. It still follows the pattern of success shaped over the years by William Heller. As Ben Heller put it, the company is "essentially a converting approach to cloth manufacture and marketing even though it now spins yarns, knits and finishes its own fabrics."

The "converting approach" means an alertness to style trends, the ability to make fast deliveries, and the capacity to turn quickly from one type of cloth to another as the volatile dress goods market whirls on its dizzy way. The "converting approach" means also full exploitation of the ability of a knit goods manufacturer to make cloth quicker than a weaver and thus make deliveries faster—sometimes within a week or ten days of receiving orders.

This capacity for quick deliveries often enables Heller to sell knitted jerseys to dress manufacturers who might have had in mind using woven goods for a certain garment but found deliveries of woven cloth would take too long. In short, the Heller outfit still applies the slogan that the elder Heller made famous on Seventh Avenue years ago: "carry your stock on our shelves."

Since he has joined his father's firm, young Ben Heller has shown himself to be a true chip off the old block plus the addition of some fresh young ideas

that his father hugely appreciates. William Heller is proud of the fact that his son has shown the ability to make and sell high class jerseys effectively. He is proud of his son's remarkable ability as a stylist. One of the reasons that prompted him to accept his new assignment at Blumenthal was his strongly felt desire to let Ben run the jersey business before, as William Heller puts it, "I am six feet under ground and no longer around to give him a little seasoned advice when he can use it."

Competition Can Be Profitable

As head man at Sidney Blumenthal it is Heller's intention to run this much bigger outfit along the lines he ran his own company. Already he has cut out a lot of dead wood from the sales and production staff. It is Heller's conviction that it is as easy to be competitive on a profitable basis as it is to be competitive unprofitably. He intends in the future that Blumenthal will be competitive in a profitable way.

"The curse of the textile business is lack of courage on the part of many mill managements," he says. "Too many mills, particularly the larger outfits, are obsessed with the erroneous idea that their salvation lies in selling at the lowest possible price and relying on volume to keep out of the red, or at least to keep from going too far into the red."

"With this theory I am in complete disagreement. I believe in producing within the area of consumption. When consumption falls I believe in cutting production. Ours is a style business and in the business of style, heavy volume becomes a hazard."

"Textiles is a business of creativeness, a business that thrives on changing styles. Textiles is a business where the smaller outfits, if they take advantage of their flexibility and are sufficiently creative, can make more money than the big mill companies."

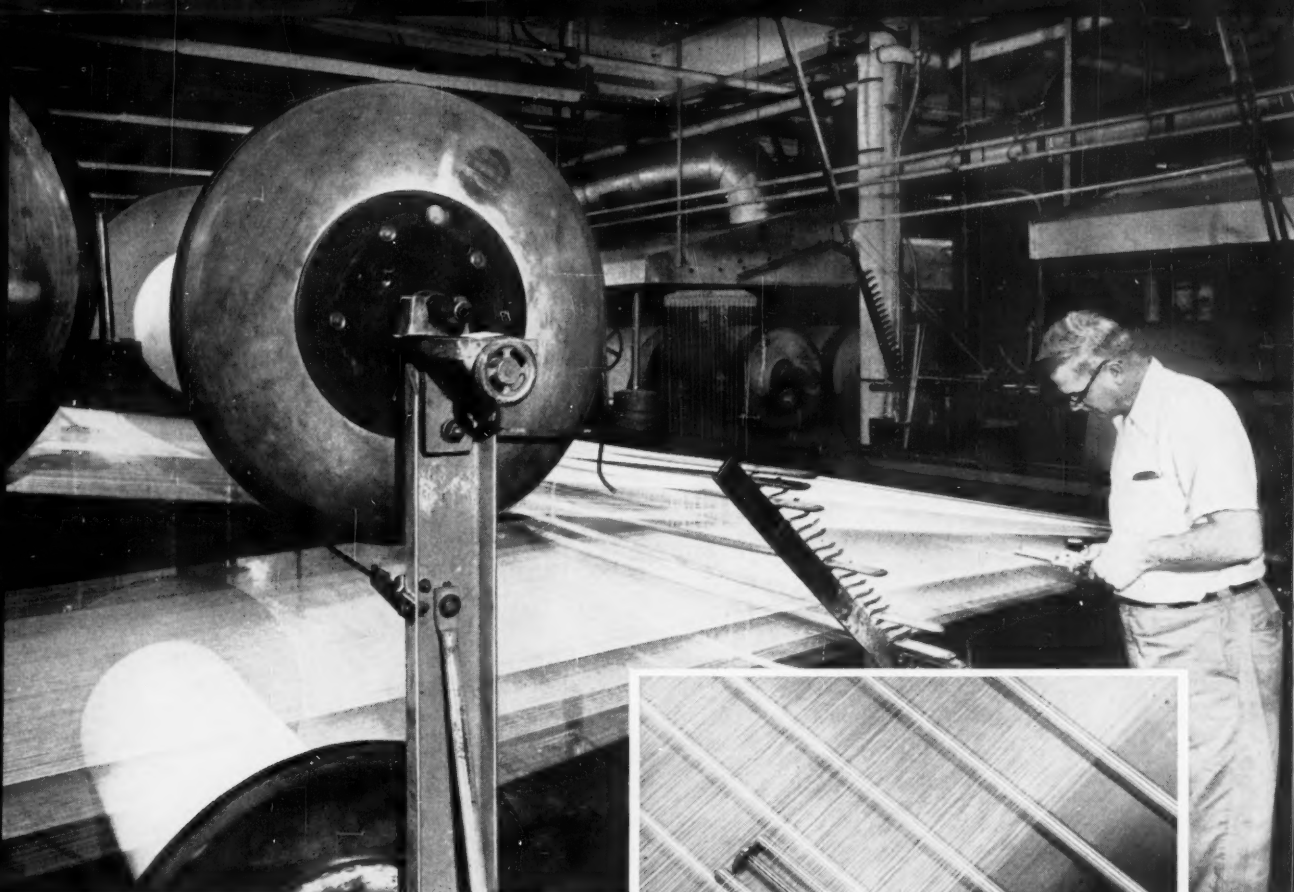
As textile outfits go, Sidney Blumenthal & Co. is a small outfit. Thus, with the dynamic leadership of William Heller energizing its operation, it should be able to make money. William Heller thinks it will. "The same two plus two that make four in the jersey business," he says, "is the same two plus two that make four in the pile fabrics which are Blumenthal's traditional specialties."

Since he has taken hold, progress toward a profitable operation has been satisfying at Blumenthal's, Heller believes. The change in management came too late this year for the company to show a profit in 1956. But the 1956 statement will reveal the effects of the changes Heller has made. For one thing, the statement will be decidedly more liquid. By 1957, Heller believes, Sidney Blumenthal will make a "reasonably good profit." With Blumenthal stock selling at this writing at about 7, it would seem that here is one of the more promising textile investments for those who have the courage and ebullient zest of William Heller.

Whitin Opening New Office

Whitin Machine Works has opened a new sales and service office in Greensboro, N. C. It is located at 1828 Pembroke Road near the Plaza Shopping Center, just off Highway No. 220.

Harry B. Patterson and Walton V. Byers of the Charlotte Sales staff and Hurley G. Way of the Service Department are in charge.



NEW KIDDE SLASHER TENSOMETER ends uneven yarn sheet tension in cotton system slashing



The new KIDDE Slasher Tensometer prevents a principal cause of streaky fabric in weaving mills that slash their yarn on the cotton system. No matter how many creel beams you use to make up your warp, you can now be sure that the tension in all yarn sheets is the same. With the KIDDE Slasher Tensometer it is easy to compare the tensions in the yarn sheets making up the sley and adjust the beam let-offs to even out any

differences. It eliminates the all too fallible human element in estimating tensions from different beams in the same set.

Developed in cooperation with the Textile Research Laboratory of American Viscose Corporation, the KIDDE Slasher Tensometer will provide quality insurance in any slasher room. For prices and complete information, write today to:

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REPORT FROM JAPAN



Quotas for U. S. accepted in principle; How they will be applied not yet clear

By B. Mori

OSAKA—A whirlpool of discussion and activity is accompanying efforts to arrive at 1957 cotton goods quota system acceptable to both American and Japanese sides. Biggest mystery is extent to which U. S. Government is using its influence with Japanese Government to effect solution to problem. The Japanese manufacturing and exporting industries are trying to figure out whether U. S. Government is merely using its good offices to transmit "reasonable" American industry proposals, or whether U. S. Government is actually "advising" Japanese side, or whether pressure is stronger than that.

How Will Quotas Be Enforced?—At this writing, there are three schools of thought on question of quotas on clothing and other made-up goods (in addition to, and probably more important than, limit on cotton fabric itself): Here are the three different points of view: 1) A single over-all yardage-equivalent figure, giving Japanese exporter complete freedom to use up his individual allotment for whatever goods he can sell. 2) An over-all yardage figure, broken down in advance by types of goods which may be exported during the year. 3) The present system—to let business take its course and impose quotas on individual items when and if any one or more of such items grow "too big."

The first proposal has only little support. It would mean chaos, its opponents say. Second proposal seems to be favored by American side; while the third is favored by Japanese side.

Clashing Points of View—In general, Japanese side has given in to American belief that quota amount should be guaranteed several years in advance "with minor adjustments." But Japanese want high enough initial ceiling to permit some expansion. They are holding out for total yardage (piece goods plus secondary products) equal to actual shipments in 1955. At this writing, it seems probable that 1956 figures will be lower than 1955. Small advance orders booked indicate that 1957's actual sales will not be much larger.

Exports of cotton fabric and blouses—big bones of contention—in recent months have been smallest since these items began to show up importantly in export trade almost two years ago.

Finished Garment Exports Climb—Meanwhile, Government and exporters have found it necessary to put quota on cotton shorts. Same action seems likely for brassieres—in each case because of rapidly mounting exports. There are rumors that men's dress shirts may be next. Minimum-quality regulations have already been placed on pajamas to prevent mass exports of low-priced goods. These actions show that Japanese are desperately anxious to demonstrate their willingness to avoid clash with any one segment of American apparel industry—anxious to do this at time when they hope it may have some effect on quota discussions.

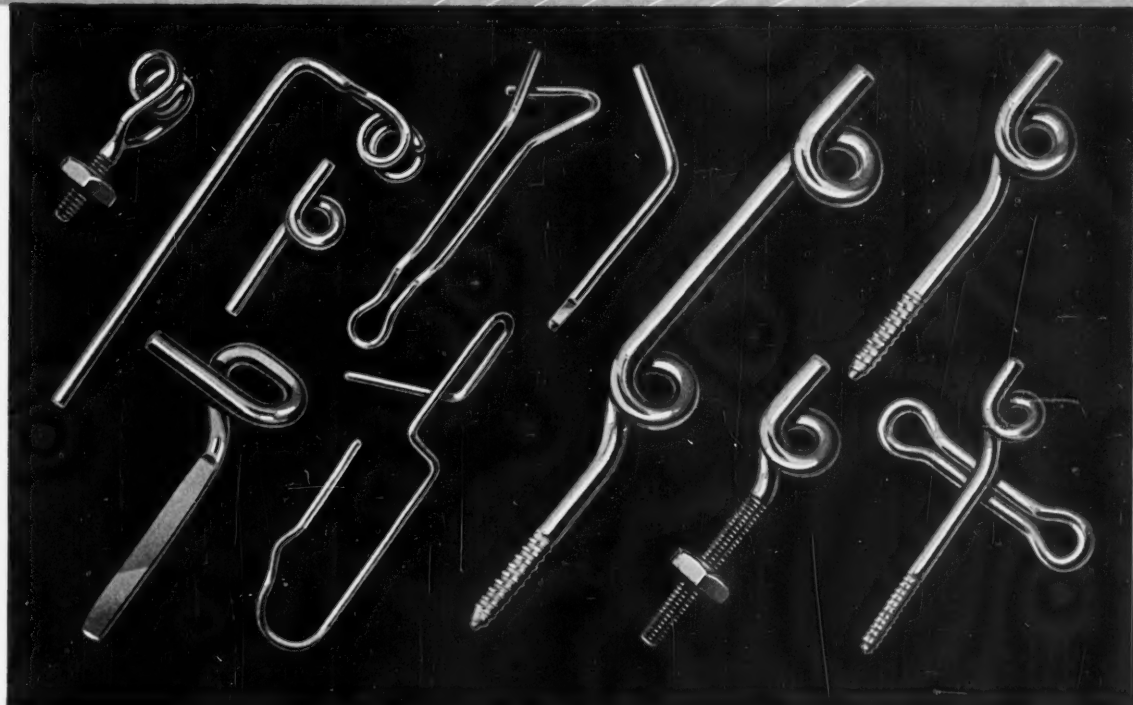
At same time, both American buyers and Japanese exporters are looking around for other cotton goods in which to trade—both fabrics and apparel—to replace the quota-limited volume in gingham, velveteens, blouses, sport shirts and other strong items.

Wool Fabric Exports Also Cause Worry—Watchful eye is being kept, on both sides of Pacific, on shipments of wool textiles to U. S. It seems likely that 1955 shipments (mainly worsted suitings) will be around 8,000,000 square yards, double last year's total. U. S. now buys one-half of Japan's wool fabric exports.

Silk reeling industry continues to seek way out of its one-product dependence, and its unstable financial position (See this Report for October). Now there seems to be concerted move on part of leading manufacturers to diversify into allied fields. Largest producer is reported about to establish spun-silk mill. Another is expanding its hosiery and weaving affiliates. A third is planning to start nylon weaving affiliate.

Outstanding feature of silk industry here recently has been strong American demand for Japanese-woven silk fabrics, including widening range of higher-priced goods. American purchases of doupion silk are also active, reflecting almost staple position of shantung and similar weaves in U. S. market. Domestic demand for silk is running well ahead of recent years, also. Nonetheless, silk market continues to fluctuate narrowly near Government support level.

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Report on GREENVILLE

Here is a first report on some of the new things our editors saw at the Southern Textile Exposition last month. We will have more in later issues

STAFF PREPARED



STANDING ROOM ONLY—Roberts' new 25-inch spinning frame was jammed with interested observers virtually every hour of the show



TIME SAVER—Hartford's new Uni-Draft, a complete drafting unit of two spindles, was shown in operation. Unit is now in mill-testing stage



TEXTILE machinery designed to help mill management solve its triple problem of speeding output, cutting costs and improving quality was shown in overwhelming profusion at last month's Southern Textile Exposition in Greenville, S. C.

Manufacturers of yarn preparation and weaving equipment stressed achievement of longer runs, yielding improved quality of yarn and fabric. Equally important in their displays were elements of sturdier construction and improved engineering aimed at reducing need for maintenance work and replacement of parts.

Observers at the show agreed that the textile industry's current terrific competitiveness, along with strong pressure from consumers for better textile products, was stimulating textile machinery manufacturers to outdo themselves in improving existing machines and developing new equipment. In both areas of machinery progress, the show bristled with evidence of hard work, and great engineering skill and inventiveness.

Among yarn preparation developments of interest was the demonstration of the new 25-inch wide spinning frame of ROBERTS Co., Sanford, N. C. Springs Cotton Mills ordered 94 of these frames earlier this year. Deliveries are now being made to Springs at the rate of four to six frames a week. A major advantage of this frame is that five of these frames can be located where four 36 or 39 inch frames were formerly placed while still retaining the same general aisle width.

The new Roberts frames are said to be simple and straightforward and free from radical innovations. They make use of Roberts double-apron drafting and yield high quality yarn with outstanding yarn evenness and low record of ends down in a range of drafts from 10 to 60 for yarn numbers from 2's to 100's. It was announced at the show that Roberts, until now a privately owned company, will become a public corporation by offering stock for sale.

Another new spinning development exhibited was the Hartford "Uni-Draft"—a complete drafting unit for two spindles shown for the first time by HARTFORD MACHINE SCREW CO., a division of Standard Screw Co., Greenville, S. C. The unit can be easily removed for servicing and can be joined up with any number of similar units. Designed for use on most standard frames, the unit has the advantages of removability for servicing without interrupting production. Still in the developmental stage, the new unit will be given mill trials and marketed later.

A new drawing frame embodying several new features never shown before was demonstrated by IDEAL INDUSTRIES, Bessemer City, N. C. According to E. B. Robinson, vice president and sales manager, the new frame is advantageous for cotton and for blending all kinds of synthetics. Among the features of the new

THEIR BABY—John C. Nash, vice president (right) and James A. Love, export manager, look affectionately at Marshall & Williams' "Tenterette" shown as part of the company's exhibit

frame are a Bahnson vacuum cleaning system made specially for this frame; a full electric knock-off with individual magnetic clutch and signal lights. The frame is equipped with an automatic drive, and a complete sealed-up ball bearing unit that eliminates the need for lubrication.

Of special interest to processors of synthetics was one of the exhibits at the booth of DAYTON RUBBER CO. It was a new anti-static roll cover claimed to reduce greatly lapping caused by static. The cover is designed to meet the problems created by use of synthetic yarn and non-metallic cap bars as well as elimination of other metal-to-metal contacts in frames. Field tests in actual mill installations demonstrate that the new roll cover is highly effective, Dayton spokesmen reported.

In the area of new loom improvements, DRAPER CORP. exhibited three looms, with many constructions on these looms shown for the first time. All are designed to increase production efficiency, provide greater loom versatility and reduce labor and maintenance costs.

Included in the Draper exhibit were two 50" X-2 models shown in continuous operation weaving synthetic yarns. One of these X-2 looms is equipped with a new automatic filling magazine and a pneumatic thread clearing device. The second X-2 model incorporates a conventional rotary battery and the recently developed pneumatic thread clearer. The third loom on display was 82" XP-2 model high-speed wide sheeting loom.

Each of the two 50" X-2 looms is equipped with a newly-designed high roll ratchet take-up, greatly increasing the versatility of the X-2. A wider range of fabrics can now be woven on this high-speed model than ever before, Draper reports. The new take-ups have double take-up rolls (rubber covered) to provide the increased frictional surface needed to hold the cloth in weaving spun or filament rayon-type yarns.

A separate wind-up, driven by chain and sprocket from the lower take-up roll, provides easy doffing. A pressure roll, acting against the lower take-up roll, holds the woven fabric securely and permits doffing the roll of cloth without stopping the loom.

With these new take-ups, and equipped with clock spring top and center fork filling motion, the X-2 is now an efficient, economical loom for many synthetic weaves, Draper spokesmen at the show declared.

One 50" X-2 loom was demonstrated weaving spun rayon blends. This loom is equipped with the new automatic filling magazine. Currently on mill trial, this construction completely eliminates the conventional rotary type of battery. Bobbins are automatically loaded into containers (or magazines) direct from the winder, then transferred to the loom and fed into the shuttle with no handling of individual bobbins by weave room personnel. Advantages of this new automatic filling magazine include decreased labor costs, and, as a result of cleaner yarns, a reduction in cloth seconds.

Also featured on this loom is a pneumatic thread clearer. This mechanism contributes to overall loom cleanliness and improves cloth quality by removing loose filling ends. It reduces drag-ins and other imperfections caused by filling waste being drawn into the weave. This thread clearing mechanism has also been designed for application on looms having the conventional battery.

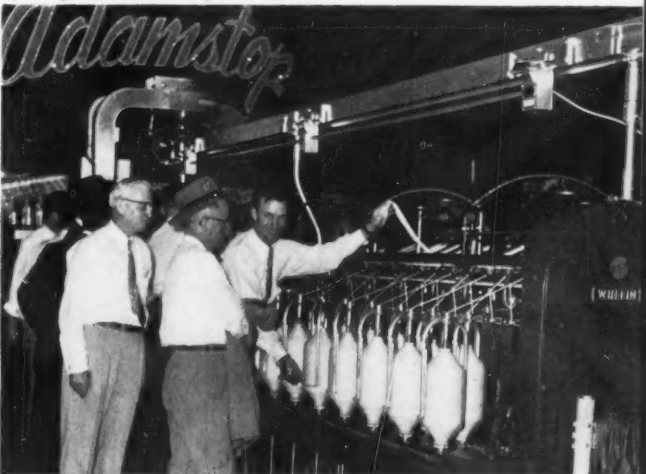
Another new Draper development, shown for the first time is a construction incorporating electrodes



KNOWING LOOKS—A group of millmen study with experienced eyes the operation of Crompton & Knowles loom in a working demonstration.



DRAWING FRAMES DREW CROWDS—The big Whitin exhibit featuring its Even-Draft Drawing Frame and its new Monarch sliver-to-yarn spinning frame attracted great interest



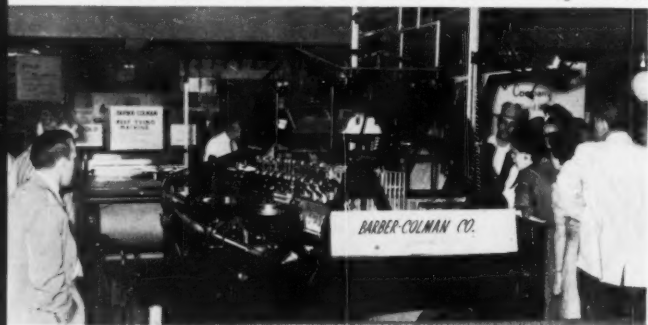
STOP MOTION STOPPED PASSERSBY—The Adamstop stop motion device demonstrated on a Whitin roving frame was effective in arresting interest of millmen "shopping" the big Exposition



HIS IDEAL—E. B. Robinson, vice president (right), worked hard during the five show days explaining to visitors the advantages of Ideal Industries' new drawing frame



ABBOTT'S WINDING EQUIPMENT—a display of high speed quill winders, including the Model 11 automatic quiller that runs at speeds above 10,000 RPM, was a feature of Abbott Machine Co.'s big floor area



LABOR SAVERS—The Barber-Colman exhibit highlighted the company's warp tying and warp drawing-in machinery as well as a high speed warper



VERSA-MATIC DRAWING FRAME—Among the displays at Saco-Lowell's big and varied exhibit was the company's new Versa-Matic high-production drawing frame



with serrated blades in a 6-bank K-A electrical warp stop with adjustable back motion. These electrodes with serrated blades may readily be applied to all K-A electrical warp stops now in the mills.

Other new constructions on this loom include (1) the new linkage parallel assembly which gives a more uniform, controlled picking action and improves overall loom operation with reduced wear on pick motion and parallel parts; (2) a lightweight aluminum pick arm and lug strap connection with a Uniball connector permitting smooth picking action and (3) a 6-bank K-A electrical warp stop (silk type) with a new adjustable back motion.

Draper also demonstrated its new automatic filling magazine. This box-like container eliminates the conventional rotary battery. The magazine functions in this way: bobbins are loaded into the magazine directly from the winder. They are then carried in the magazine to the loom and fed into the shuttle from the magazine with no handling. Advantages are great saving in labor and cleaner yarn.

At the CROMPTON & KNOWLES exhibit two looms were shown in working demonstrations all during the five days of the Exposition. One was an M-P Automatic bobbin changing dobby dress goods loom 56" between swords with 20 harness (15/32" gauge) 4x1 box. The second loom likewise was of the latest M-P design and of the automatic bobbin changing dobby convertible type, 56" between swords, 20 harness (15/32" gauge) convertible from 1x1 to 2x1 and vice versa. Along with these exhibits, Crompton & Knowles demonstrated its new 36 bobbin capacity rotary magazine equipped with a vacuum control feature.

Another display by Crompton & Knowles that drew many interested comments and careful scrutiny was the company's magazine advancer attachment demonstrated in public for the first time. The device enables a magazine filler or weaver to fill the magazine automatically without the need to handle the yarn or touch the magazine. It is said that the device will also enable swifter magazine loading at lower cost while making the weaver's work easier.

At the display of SACO-LOWELL SHOPS, the new machinery demonstrated included the new Versa-Matic high production drawing frame designed to operate at delivery speeds in the range of 300 feet a minute. The new frame is equipped with electronic stop motion, self-cleaning clearers, improved anti-friction tube gears, large coilers and a revolutionary type of gearing. This frame was demonstrated processing cotton stock.

Also displayed by Saco-Lowell was a Model 56 Comber equipped with a new draw box with self-cleaning clearers, the new Edfors Geneva Motion and other improved sub-assemblies. Saco-Lowell also showed a Gwaltney spinning frame with the Model SG3-J drafting element designed to process synthetic staples up to 3" long.

A big attention getter among the dense crowds, that thronged the Exposition virtually every hour it was open, was the warp tying machine exhibited by BARBER-COLMAN Co., Rockford, Ill. Along with this machine, which was the company's 56" Model M type, Barber-Colman demonstrated its 66 FSH Warp Drawing Machine and its 54½" DW Super-Speed Warper.

At the display of ABBOTT MACHINE Co., Wilton, N. H., was its Model 11 automatic quiller, designed

(Continued on Page 65)

SUPPLIERS ARE IMPORTANT TOO—The attractive display of Engineered Plastics, Inc., makers of bobbins and spools, was one of hundreds of suppliers of mill needs who participated in the Exposition



for ORLON*...GENACRYL dyes

Pioneer basic dyes of a new type for acrylic fibers

GENACRYL® dyestuffs are straight, water-soluble colorants differing from conventional basic dyes. They give bright, strong shades on Orlon acrylic fibers—characterized by light fastness fully adequate for the end-use requirements of Orlon and by very good fastness to drycleaning, perspiration, sublimation, rubbing, and washing with soap and soda at 160° F.

GENACRYL Yellow, Pink, Red, Oranges, and Blues yield level and well-penetrated dyeings, by a simple direct-dyeing procedure at temperatures near the boil. Because of exceptional brightness, a wide range of

combination shades can be made from the GENACRYL dyes, and these can be readily supplemented by simultaneous application of selected ordinary basic dyes—without complication of the dyeing procedure.

The GENACRYL dyes have been perfected to meet your demands for coloring Orlon and other acrylic fibers, and particularly for Orlon-wool blends. Ease of application and great tinctorial value are important production benefits from their use. For further information, please call on our sales office nearest you, or write us direct.

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DRAFTING

A Comparison of

Ideal Metallic Top Rolls vs. Cushion Top Rolls

Cushion top rolls came into general use because of the drawbacks inherent in old style metallic rolls. When Ideal perfected its advanced design of hardened and mirror-ground all-metallic drawing it overcame all defects — not only of old style metallic rolls but also of cushion rolls. The comparisons below show why Ideal Metallic Rolls today produce the finest quality drawing sliver for any count yarn.

Durability

Cushion top rolls need frequent buffing to correct uneven wear. They start deteriorating the day they are installed and sliver quality goes down — down — down until they are re-buffed.

Ideal Metallic Rolls which have been in constant service for over seven years show no measurable wear — hence no reduction in sliver quality at any time.

Weighting

At today's high speeds, cushion top rolls need weighting up to 150 lbs. This creates excessive friction, heat, and power load.

Ideal Metallic Rolls need 20 lbs. or less even at 450 feet per minute. Ideal roll design practically eliminates friction and the larger surface area of the rolls dissipates heat quickly.

Lap Ups

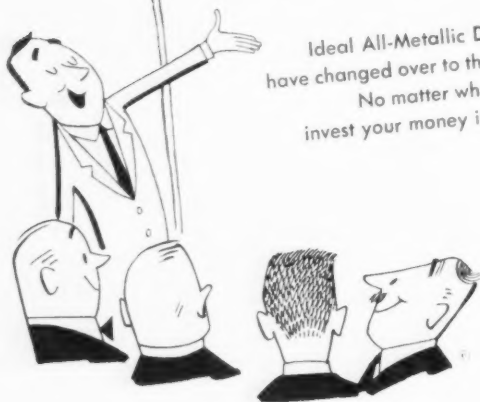
Speed + pressure + heat + static tends to accumulate lint on cushion rolls. In a carefully controlled comparison, one mill had 93 lap ups a week on cushion rolls on the latest type drawing equipment against one lap up per week on Ideal.

Linted Bottom Rolls

When cushion rolls are used at speeds over 200 feet per minute there is a tendency for lint to collect on the metallic bottom roll and form slick surfaces. This is usually not detected until it shows up in poor drafting on the slubber or in subsequent processes.

Ideal Metallic Rolls "Purr Like a Kitten" at speeds of 450 feet per minute without causing linting up on bottom rolls.

Ideal All-Metallic Drawing Rolls have proven so superior that several mills have changed over to them, to replace their latest types of cushion top roll equipment. No matter what you spin, it will pay you to make careful comparisons before you invest your money in any drawing equipment.



Patent Nos. 2,610,363;
2,490,544; 2,412,357.
Other patents pending.

Ideal

Industries, Inc.
Bessemer City, N. C.

MODERN TEXTILES MAGAZINE

Improved Fastness in Nylon Dyeing

STAFF PREPARED

BETTER wash and light fastness can be achieved in dyeing continuous filament nylon fabrics by a new process developed by the Chemstrand Corp., according to Walter H. Hindle in charge of Chemstrand's textile research. Tradenamed the "Chemnyle Process," the new dyeing method uses dye assistants to modify the application of existing acid and direct dyestuffs. It is adaptable to all forms of existing dyeing equipment.

The new process, Hindle said, permits the successful dyeing of nylon in fast color for a variety of end products including taffeta, tricot, sweaters and half hose. Chemstrand filament nylon dyed by the new technique has shown excellent resistance to color loss even when washed at temperatures of 160°F. and higher, Mr. Hindle pointed out. The same excellent uniformity of dyeing nylon normally obtained with dispersed acetate dyestuffs has been obtained by the Chemnyle process but with the high fastness properties of acid and direct dyestuffs, particularly when aftertreated, Hindle reported.

Hindle said that up until now filament nylon had been largely dyed with disperse dyestuffs in order to obtain uniformity of dyeing but that this had been done at the expense of good colorfastness. On the other hand, he noted many acid and direct dyestuffs had given good colorfastness at the expense of uniformity of dyeing.

"The net result," he pointed out, "was that for many years filament nylon fabrics, sweaters and hosiery which appeared on the market possessed a colorfastness which did not measure up to the longevity of the nylon yarn."



NEW NYLON DYEING TECHNIQUE—Walter H. Hindle of the Chemstrand Corp., here demonstrates some of the asserted advantages of his company's new process for dyeing nylon filament fabrics. On the display board are nylon fabrics with intentionally induced chemical and physical non-uniformities. The top row was dyed by conventional processes which exaggerated the non-uniformities while the same material (shown in bottom row) had excellent dyeing uniformity with the "Chemnyle Process." Hindle also displays two children's dresses dyed by the new method which gives both excellent uniformity and high colorfastness even when washed at temperatures of 160 to 212° F.

Commercially dyed fabrics and test results on fabrics dyed by the Chemnyle Process were exhibited at a press conference in New York City. The Chemnyle dyed goods showed excellent resistance to 160 to 212°F. washing while conventionally dyed goods showed a loss of color. Hindle said that tests of light-fastness similarly showed a substantial improvement.

Also shown at the press conference were samples of nylon fabrics containing a wide range of deliberately induced non-uniformities from both a physical and chemical standpoint. These showed that a conventional acid or direct color dyeing process exaggerated these conditions. But the same dyestuffs applied by the Chemnyle Process showed improved uniformity.

The new dyeing development was a highlight of the Chemstrand exhibit at the Perkins Centennial.

Arrangements for technical demonstrations can be made through the nearest Chemstrand sales office. These are located at Akron, Ohio, Charlotte, N. C., Dedham, Mass., and 350 Fifth Avenue, N. Y. C.

Greenville

(Continued from Page 62)

to wind bobbins with all types of synthetic and natural fiber yarns at spindle speeds of 10,000 RPM and higher. Along with these high speeds, the machine permits substantial savings in floor space, cleaning and maintenance.

Another machine said to be entirely new in concept was the quill refinisher and degreaser displayed by ROBERT REINER, INC., Weehawken, N. J. The company states that the unit can handle from 30,000 to 35,000 quills a day without additional labor cost. Reiner spokesmen at the show expressed the opinion that the machine, installed in a mill, would pay for itself in less than four months.

Prominent among the new drawing equipment at the show was the Even-Draft frame of WHITIN MA-

CHINE WORKS, Whitinsville, Mass. Demonstrated at speeds up to 300 feet a minute, the new frame is capable of handling all fibers up to three inches. It is said to produce extremely uniform carded or combed sliver with six or eight ends up. It has an entirely new air operated clearer manufactured by PNEUMAFIL CORP.

Also displayed by Whitin for the first time was its new Monarch sliver-to-yarn spinning frame with 7 inch gauge, 5½ inch ring, and 11 inch traverse. This machine is said to be capable of drafts from 4 to 50, producing packages holding more than 3.5 lbs. of yarn on the bobbin. The frame handles fibers from 3 to 9 inches long. Whitin states that the new Monarch frame is specially suited for economical production of quality tufted carpet and other coarse yarns from wool, man-made fibers and blends.

(To Be Continued)



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NEW FABRICS

NEW YARNS

New Acetate Staple Fiber

Celacloud, a new acetate staple fiber for end uses requiring extra loft and resiliency has been introduced by Celanese Corp. of America. Formerly designated "Type F," Celacloud is available in 5.5 and 8 d.p.f. at 32 cents; and 12 and 17 d.p.f. at 33 cents. Evaluations have shown the material provides maximum increase in loft of up to 52% above that of regular acetate. Its adaptability to a wider range of applications is being determined.

New All-Rayon Fabrics

Two fashion fabrics, tailor-made to the specific market for which fabric is intended, are now available for spring and summer lines from Beaunit Mills, Inc. An all-rayon woven construction with a dobby weave, the new fabric is offered with a slightly crisp finish for use in the women's and children's dress and blouse markets. A second weight is slated for styling into light, porous men's jackets. Both variations are fully washable and have a crease-resistant finish with a maximum of 2 to 3% residual shrinkage, according to Beaunit.

Taslan All-Dacron Shirting

Burlington Industries has introduced a new wash-and-wear shirting fabric which is said to offer long-life, constant comfort and good crease-releasing properties. "Travelon" shirts, now being produced by Maston Shirt Co., are reported smooth and neat after washing and drip-dry in a brief two to four hours. "Travelon" is the first men's shirting fabric made of Taslan, using Dacron polyester filament yarn.

Iridescent Fabrics

Stead & Miller division of Collins & Aikman has developed a range of iridescent fabrics for a new line of beds introduced by Simmons. The fabrics, known as the "Maharanee" series, are said to employ as many as eight shades to achieve each color's subtle iridescence, with the yarns specially processed to produce rachine and non-repeating slub effects. The same also is reported true of the metallic yarns which are used.

Metallic Yarn in Towels

Martex Division of Wellington Sears is showing a new towel ensemble which draws inspiration from an Indian sari. A wide border design at both ends of the towel is woven in metallic threads of three colors. The yarns are rounded and have a soft hand instead of the harshness of flat filaments. The Maharani ensemble of bath towels are priced at \$21.25 a dozen; guest towels at \$11.50, and wash cloths at \$3.50.





NEWS AND COMMENT

Dinner-Dance Already Sold Out

Reservations for the annual dinner-dance of the Textile Distributors Institute on Nov. 8 are completely sold out, according to Miss Hilda A. Wiedenfeld, Executive Secretary. To be held, as in past years, at the Plaza Hotel in New York City, the event will open with a cocktail party and reception to be followed by a banquet in the hotel's grand ballroom with dancing to two musical ensembles, one a rumba band. The event is a strictly formal one.

Sidney Frankel, Duval Fabrics, Inc., is chairman of the committee in charge of arrangements for the dinner-dance. Other members are: Richard Deneau, Richelieu Fabrics, Inc.; Herman Leibmann, A. Steinam

Co., Inc.; Richard Roaman, Reliable Textile Co., Inc.; Frank A. Rosenhaus, Frankly Fabrics Corp.; Walter A. Ross, Rosewood Fabrics, Inc., ex officio as president of the Institute.

Fabric Display Closes Nov. 4

The exhibit of fabrics produced in the United States now being staged at the Museum of Modern Art in New York City closes November 4th. According to museum spokesmen the exhibit, called "Textiles U.S.A." has drawn widespread public interest. A number of TDI members cooperated with the museum in arranging the exhibit and furnishing fabrics shown in it.

Outlook (Continued from Page 32)

Losses from quality deterioration are sometimes substantial. Only a few years ago, for example, most women's slips were made of nylon tricot. To get slips into successively lower retail price brackets, many flimsy, poor quality fabrics were used. It was not long before nylon slips lost much of their popularity with consumers. This opened door to great variety of fabrics which are used in this market today.

Group Action Would Be Better—It has been common in past to regret such developments, but to deny possibility of correcting them. Nevertheless, it should be important part of marketing activity to prevent such abuses. There is increasing evidence that individual efforts along these lines are being

strengthened. For example, consumption of nylon in bed sheets is now increasing rapidly. Producers of nylon yarn have been active, first, in developing standards for the tricot sheeting fabric which will insure satisfaction to the consumer; secondly, in educating retailer and consumer with respect to these standards, and the assurance they provide of quality and satisfaction to the consumer.

But such individual actions do not increase prestige values of textiles and apparel as a whole as might be done by overall standards, covering all items, and receiving industry support and promotion. Nevertheless, as more individual items are protected by such marketing activities, frequency of abuses will be greatly reduced; position of individual yarns, fabrics and garments will be protected, and eventually there should be some gain for industry as whole.

Chemstrand Expanding Nylon Output

Chemstrand Corp. will increase output of its nylon plant at Pensacola, Fla. to 114 million pounds by the second quarter of 1958, according to a statement last month by E. A. O'Neal, president. He said that the increased capacity is scheduled to come into production at an 88 million pounds per year rate in November, 1957. Capacity will reach 100 million pounds per year in January, 1958.

Original capacity of the plant was 50 million pounds a year. Current output is reported to be about 60 million pounds annually. The added capacity, Mr. O'Neal said is planned primarily to meet growing demand for nylon in tire cord and other industrial uses.

TRI to Hold Seminars

The Textile Research Institute will hold a series of seminars at its laboratories in Princeton, N. J. On Nov. 15 John Menkart of the Textile Research Institute will conduct a discussion on The Significance of Crimp in Wool. On Nov. 29 Prof. Frederick R. Eirich of the Polytechnic Institute of Brooklyn will preside over a discussion on Interactions of polyvinyl pyrrolidone with dyestuffs. On Dec. 13 Wil-

liam G. Klein of The Fabric Research Laboratories will elaborate on changes in fabric structure under biaxial stresses. On Dec. 27 Robert F. Schwenker, Jr. of The Textile Research Institute will contribute a talk on chemical modification of cellulose to effect flame and glow resistance.

On Jan. 10 Bengt Ranby of American Viscose Corp. will deliver a talk on properties of cellulose chains of different origin.

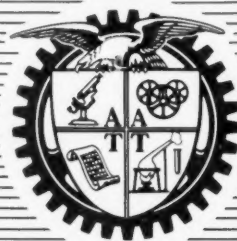
The last of the seminars is scheduled for Jan. 24 and for this meeting Joseph B. Levy of the Textile Research Institute will conclude with a discussion on static electrification of filaments.

Celanese Piece Goods Display

A display of piece goods stressing fabrics for next spring and summer opened on Nov. 1 at the showroom of Celanese Corp., 180 Madison Ave., New York City. The display will continue through Nov. 15 and will be open Monday through Friday. The display will re-open on Dec. 3 and continue through Jan. 18.

Described as a "piece goods workshop", the display will include as many as 200 fabrics supplied by 45 or more converters. Fabrics shown will contain Celanese's Arnel, acetate and Celaperm, the company's solution-dyed acetate.

PAPERS OF THE AMERICAN ASSOCIATION FOR TEXTILE TECHNOLOGY INC.[®]



AATTI

VEREL Acrylic Fiber

By
Dr. H. W. Coover, Jr.

Physical and chemical aspects

VEREL, a new modified acrylic fiber, was announced March 14, 1956, by Eastman Chemical Products, Inc., a subsidiary of Eastman Kodak Co. Eastman Chemical's corporate associate, Tennessee Eastman Co., developed the new fiber and will produce it. Pilot plant quantities of Verel fiber are now available for market evaluation. Commercial production is scheduled to begin late this year. Verel fiber is available in four types: regular, Type I, Type II, and FR. Regular Verel fiber has 0 to 2% shrinkage in boiling water, Type I has medium shrinkage, and Type II has high shrinkage. Verel FR fiber is characterized by its outstanding flame resistance.

Papers presented at October 3 meeting American Association for Textile Technology, Inc.



Dr. H. W. Coover, Jr.

Dr. Coover received the Ph. D. degree from Cornell University in 1943 and joined the research staff of the Eastman Kodak Co. in Rochester, N. Y. In 1950 he was transferred to the Research Laboratories of Tennessee Eastman Co. in Kingsport, Tennessee. Dr. Coover's principal interests are in high polymer and organophosphorous chemistry, but he has also worked in the fields of insecticides, fungicides, and biologically active compounds, dyestuffs, surface-active agents, and reaction mechanisms. He and his co-workers have been granted over 100 patents and have written a number of papers concerning these fields.

Verel, which is characterized by a marked whiteness, possesses the good physical characteristics of other well-known acrylic-type fibers as well as certain desirable properties usually associated with the natural fibers, such as good moisture regain and ease of dyeing. These relationships are brought out in the following discussion of the physical and chemical properties of Verel.

Physical Properties

Tensile Properties

Verel is a strong, tough fiber and in this respect is similar to other acrylic fibers. It has a tenacity of 2.5 to 2.8 g./den., an elongation of 33-35%, and a toughness index of 0.46 g.-cm./den.-cm. Fig. 1 is a typical stress-strain curve for the fiber. Verel has a compliance ratio of 1.0, a modulus of 40 g./den., an average stiffness of 8.0, and a yield point of about 0.8 to 1.0 g./den. Therefore, Verel is softer than most of the acrylic-type fibers and is quite similar to wool.

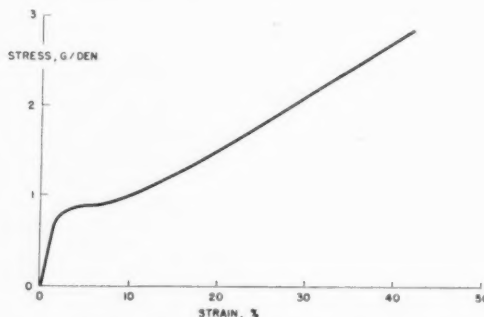


Fig. 1—Stress-Strain Curve for Verel

Elastic Properties

Verel is a fiber of medium elasticity and in this respect is comparable to the other acrylic-type fibers. The elastic behavior of Verel is shown in Fig. 2. At 2% elongation, Verel has a work recovery of 78% and a length recovery of 79%. At 5% elongation, it has a work recovery of 41% and a length recovery of 63%. At 10% elongation, it has a work recovery

of 20% and a length recovery of 38%. This recovery is referred to as "instantaneous" recovery. As is true with other fibers, much higher values are obtained when the fiber is given more time in which to recover. Verel has an elastic recovery of 88% at 4% elongation and 70% at 10% elongation when a recovery time of 1 min. is allowed.

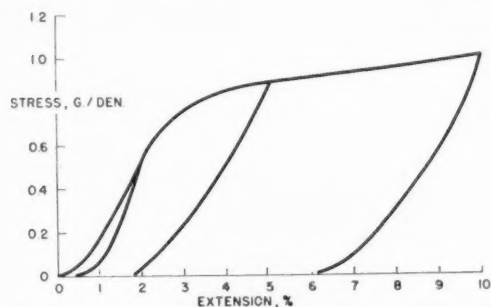


Fig. 2—Hysteresis of Verel at 2, 5, and 10% Extension

Thermal Properties

Verel has no melting point; however, it is thermoplastic and a maximum safe ironing temperature of 300°F is recommended. Shrinkage of regular Verel fiber in boiling water is 0 to 2%. At 130 to 150°C the fiber properties begin to change rapidly, the tenacity and modulus decreasing and the elongation increasing. The effect of hot water on Type I and Type II fibers is shown in Fig. 3. Type I shrinks 9 to 11% in

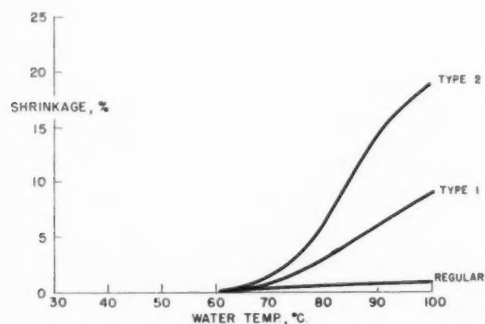


Fig. 3—Effect of Water Temperature on Shrinkage of Verel

boiling water and Type II shrinks 10 to 23%. In Fig. 4 the effect of dry heat on these fibers is shown. Type I shrinks 15 to 17% at 150°C, whereas Type II shrinks 25 to 28%.

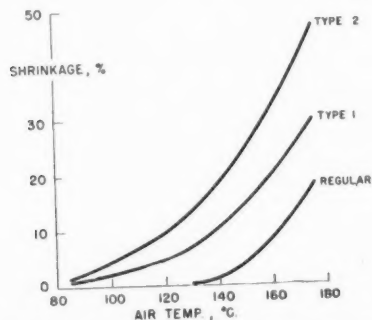


Fig. 4—Effect of Air Temperature on Shrinkage of Verel

These high-shrink fibers can be used to produce fabrics of high bulk. Their properties after processing, which removes the shrinkage, are similar to those of regular Verel. Verel can stand exposure to moderate temperatures for a considerable time without loss in physical properties. Samples of Verel fabric were unchanged in strength or elongation after being heated at 110°C for 128 hr.

Moisture Regain

Verel is unique in the field of acrylic-type fibers in its high moisture regain. The regain of 3.5-4.0% at standard atmospheric conditions (70°F, 65% relative humidity) contributes to its comfort in fabric form and to its ease of processing.

Miscellaneous Properties

Verel has a specific gravity of 1.37, a value close to that of acetate, rayon, and wool. It has a refractive index of 1.538 and is practically not birefringent. The dielectric strength exceeds 1500 volts per mil (measured on film). The fiber has less tendency to form static than the other acrylic fibers, probably because of its higher moisture regain. Verel, like the other acrylic fibers, is nonallergenic. There was no reaction or sensitization to Verel on prolonged and repeated skin tests.

Flame Resistance

Regular Verel has good flame resistance. Type FR Verel is extremely flame-resistant and, to the best of our knowledge, is the most flame-resistant organic fiber known to man. Type FR will pass all known fire laws and codes and ranks with such fire-resistant materials as glass and asbestos.

There are numerous tests designed for testing the flame resistance of fabrics. The five most severe tests in the country are as follows: National Fire Underwriters Test, Federal Specification CCCT191B, and the State of California, City of Boston, and New York City Tests. These tests involve the ignition of a 2 x 10-in. or 2 x 12-in. strip clamped vertically over a luminous flame for 12 sec. The sample is clamped in place in most of these tests so that the fabric cannot shrink away from the flame; however, the New York City Test does not require a clamped sample. The more drastic tests specify that the average after-flame be 2 sec. or less for 10 samples. Also, the length of char shall not exceed 4½ in. for material which weighs 6 to 10 oz./sq. yd. The New York City Test requires that there be no flashing, an average after-flame not exceeding 3 sec., and an average afterglow not exceeding 20 sec. (outside the charred area).

Type FR Verel will pass all of the above fire tests. Another outstanding feature of Verel is that it does not drop molten tar even when exposed to a direct flame. The charred area which has come in direct contact with the flame is a hard, brittle char in the original shape of the fabric. Also, there is no afterglow. The tendency to afterglow is quite characteristic of cotton. On a 2 x 12-in. strip of cotton, the flaming action lasts for about 20 sec. Then approximately 2 min. are required for the afterglow to consume the charred fabric completely. Cotton which contains only 25% Verel is improved considerably. It is more difficult to ignite and leaves a char in the original shape of the fabric. The flaming action still lasts about 20 sec., but afterglow is observed only in the upper edge of the char and lasts only for approximately 7 sec. Wool is difficult to ignite and burns slowly; however, it drops molten tar which

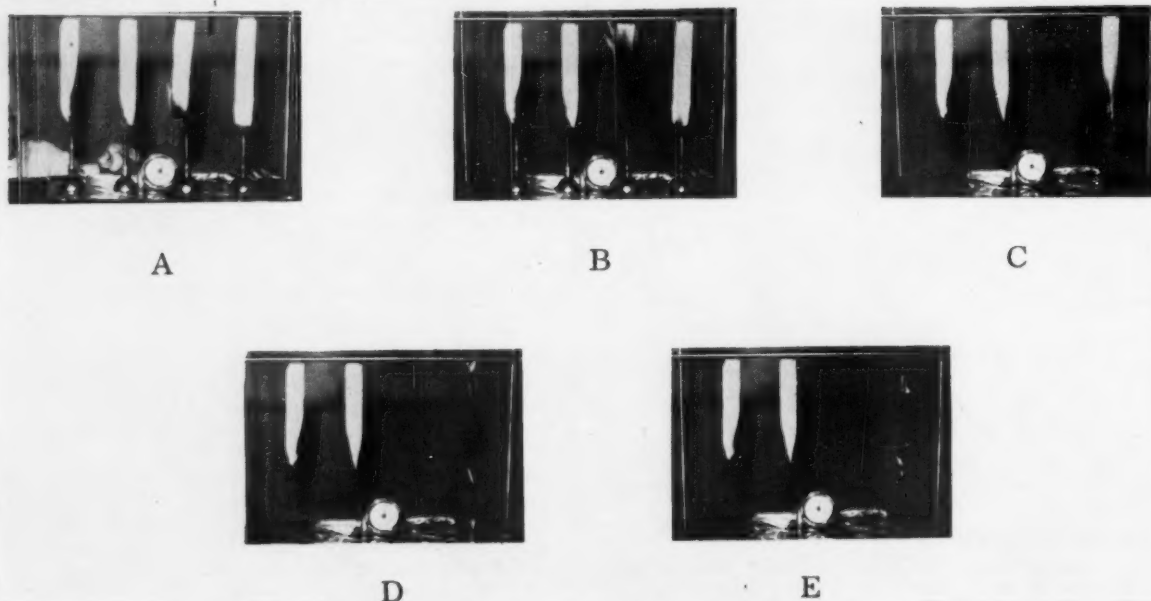


Fig. 5—Flame Resistance of Verel and Verel FR in Comparison With Cotton and Wool (From Left to Right): A, After 5 Sec. Burning; B, After 10 Sec. Burning; C, After 20 Sec. Burning (Burners Removed After 12 Sec.); D, After 45 Sec. Burning; E, After 50 Sec. Burning.

continues to burn. Again in Verel-wool blends, the Verel improves the flame resistance of the wool and prevents the dropping of tar. The char which remains is hard and brittle.

The outstanding flame resistance of Verel, particularly of the FR type, makes available for the first time a versatile textile fiber that should have important end uses in every application where resistance to fire is needed.

Fig. 5A-E illustrates the flame resistance of Verel and Verel FR in comparison with cotton and wool. In these figures, reading from left to right, the samples are Verel, Verel FR, cotton, and wool. In Fig. 5A, the samples have been ignited for 5 sec. and it will be noted that the cotton has already begun to burn. After 10 sec. (Fig. 5B), the sample of cotton is half consumed and the wool is starting to burn; however, neither the Verel nor the Verel FR has begun to burn. In Fig. 5C (taken after 20 sec.), the burners have been removed for 8 sec. Neither of the Verel samples is burning, the cotton is completely consumed, and the wool is gradually burning upward. In Fig. 5D (taken after 45 sec.), the wool is nearly consumed and the burning tar from the wool may be seen on the table top. In Fig. 5E (taken after 50 sec.), the entire strip of wool is burning and the burning tar can still be seen. Although the regular Verel did melt and pull away from the wire during ignition, the Verel FR did not pull completely free from the wire which initially held the sample tautly.

Weathering

Verel has good weathering characteristics. It is better in this respect than all of the natural fibers and most of the man-made fibers, including acetate, the polyamides, and the polyesters. The effect of outdoor weathering on the tenacity and elongation of Verel is shown in Fig. 6. Acetate, cotton, and wool were used as controls. At 50 weeks, Verel had good

strength and elongation, whereas the acetate and wool fibers were completely ruined and the cotton was too brittle and weak to be usable.

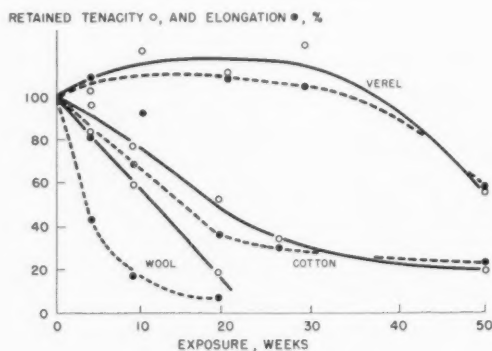


Fig. 6—Weather Resistance of Verel

Chemical Properties

Chemical Resistance

Verel possesses a high degree of resistance to a wide range of chemicals, including mineral acids, alkalis, oxidizing agents, all dry cleaning solvents, and most common organic solvents. For example, the tenacity and elongation were unaffected when the fibers were soaked for four days in 40% nitric acid, concentrated hydrochloric acid, 50% sulfuric acid solution, 50% sodium hydroxide solution, ethyl acetate, concentrated Clorox, perchloroethylene, 30% hydrogen peroxide, or toluene.

Biological Resistance

Verel is highly resistant to attack by mildew and other micro-organisms. It was unaffected after being buried for 12 weeks in moist (30% water), biologically active river loam at 25°C. Cotton decomposes after 6 to 7 days in the same test.

Identification and Analysis

Fig. 7 is a photomicrograph of Verel. The peanut-shaped cross section is characteristic. Verel turns a deep reddish brown without dissolving when heated with pyridine. This behavior positively identifies Verel. Quantitatively, Verel can be determined on the basis of its complete solubility in warm acetone and its insolubility in acetic acid (dissolves acetate) and cyclohexanone (dissolves Dynel and Vinyon HH).

Summary

Verel, Eastman's modified acrylic fiber, by virtue of its chemical composition possesses a unique combination of physical characteristics which make it an outstanding fiber for certain fields of use. The most important of these are its soft hand, ease of dyeing, excellent flame resistance, white color, controllable shrinkage, excellent chemical resistance, and its relatively high moisture regain. In addition, Verel is unaffected by moths and mildew and has good press- and shape-retention, good recovery from wrinkling, and a low pilling tendency.

Verel fiber in blends with wool, cotton, and other fibers is therefore expected to prove very important in the manufacture of knitwear, pile-type fabrics, industrial fabrics, and in numerous other end uses.

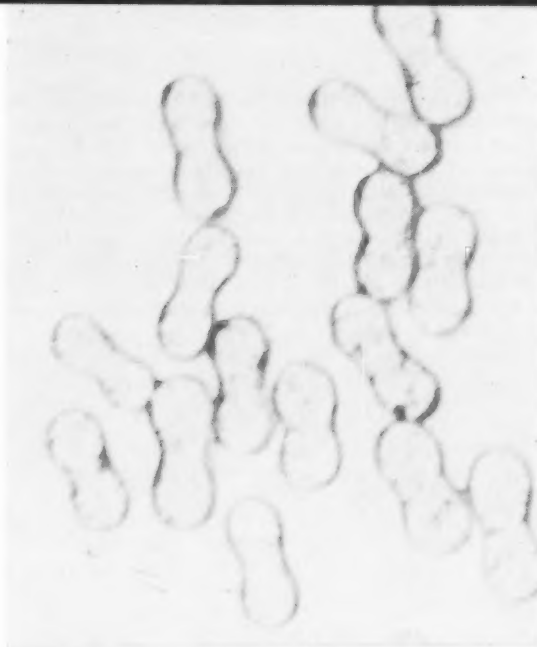


Fig. 7—Photomicrograph of Cross-Sectional View of Verel

VEREL Acrylic Fiber —

By William
R. Ivey, Jr.

Its dyeing and finishing properties

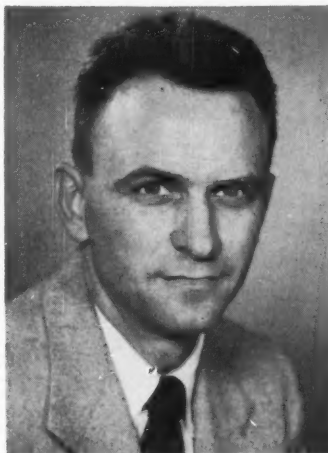
WITH the introduction of a new fiber in today's textile market, a great deal of importance rests in the ease or difficulty with which this fiber may be colored to meet the requirements of the apparel, home furnishing and other fields. Verel is a fiber that may be dyed by any dye house that is equipped to process man-made fibers and without the need of any special equipment.

The preparation of Verel for dyeing follows the same general pattern as with other man-made fibers. Desizing with an enzyme in the case of insoluble starches or warm water for the soluble sizing materials is necessary to insure against unevenly dyed fabrics. Scouring or "boiling-off" in a neutral bath with a detergent is normally sufficient for the removal of dirt and lubricants acquired in earlier processing. If it becomes necessary to use an alkaline scour to remove oil or other stubborn material, a mild alkali such as disodium phosphate or tetra sodium pyrophosphate should be used. As with other acrylic or modified acrylic fibers, Verel is discolored by the presence of strong alkali and such should be avoided.

Verel fiber, as it is produced, is quite white and will not normally require bleaching. If, in some instances, it becomes necessary to further whiten the fiber, a bleach of sodium chlorite and oxalic or formic acid is recommended. This bleaching method, in addition to further whitening Verel, is effective on other fibers as well when a blended fabric is being processed. Peroxide or chlorine bleaches are not recommended for Verel alone or in blends, as a discoloration rather than bleaching is the result.

In dyeing Verel, there are three classes of dyes that are considered the most effective from a standpoint of fastness and economy. The most important

of these classes are the neutral-dyeing premetallized dyes. These dyes generally offer the best all-around fastness properties on Verel. Wash fastness of 140°F over the full shade range may be accomplished; light fastness will depend naturally on the depth of shade.



W. R. Ivey, Jr.

Mr. Ivey is Chief Chemist in charge of the Dyeing and Finishing Laboratory, Fiber Development Division of Tennessee Eastman Co. He was formerly with North Carolina Finishing Co. He holds a B.S. degree in Textile Chemistry and Dyeing from North Carolina State College, Raleigh, North Carolina.

The dispersed acetate dyes are a second class of dyes that may be used on Verel and exhibit very good fastness properties although not generally as good as the premetallized dyes. Brighter shades may be obtained with acetate dyes than with premetallized dyes but usually some fastness must be sacrificed.

Basic or cationic dyes are the third class of dyes that may be used in coloring Verel. These dyes will be used for specialty fabrics when brighter shades are required than can be obtained with either the premetallized or acetate dyes.

The methods employed for the application of these three classes of dyes are generally the same as are recommended for the earlier developed fibers for which these dyes were originally intended. Operating temperatures of 180°-205°F are sufficient to completely exhaust these dyes over the full shade range. Light and medium shades may be obtained without assistants, but in dyeing heavy shades, a dyeing assistant is used to obtain a complete exhaustion of the dye on the fiber or fabric. This dyeing assistant is presently available through the sales offices of Eastman Chemical Products, Inc., and is a nontoxic material easily removed from the fiber or fabric after dyeing in a water rinse.

Blends of Verel with other of the textile fibers may be dyed to almost any desired combinations, either union shades, color and color or color and white effects. Verel and rayon or cotton offer a multitude of possibilities since Verel may be dyed with either

the premetallized or acetate dyes and the rayon or cotton dyed with direct dyes with little if any cross-staining. Blends of Verel and wool offer a very outstanding feature in the fact that selected premetallized dyes will dye union shades on the two fibers without resorting to extended dyeing periods or the transfer of dye from one fiber to the other. Other of the commonly used textile fibers may be processed in blends with Verel to obtain a great many color combinations.

Note should be made of the finishing of fabrics containing Verel since, like other of the hydrophobic fibers, certain precautions should be observed. Verel has many excellent properties that will enhance the performance of different finished fabrics such as wrinkle recovery, crease retention, dimensional stability and abrasion resistance. Care should be exercised in the finishing operations to preserve these qualities. Resins commonly used on cellulosic fibers should not be used on Verel since these materials remain on the fiber surfaces and result in an undesirable stiffness or boardiness causing a decrease in many of the inherent properties. Blends of the cellulosic fibers and Verel may be finished with reduced amounts of resin when, by selectivity, it appears that the resin reacts with the cellulosic fibers and does not alter Verel. As with other acrylic fibers, any temperature in excess of 300°F should be avoided in all finishing operations since this will result in a stiffening of Verel.

VEREL Acrylic Fiber —

By Robert T. Crawford

Applications and possibilities



R. T. Crawford

R. T. Crawford is Manager of Sales Development, Textile Division, Eastman Chemical Products, Inc. Previous positions with the Eastman organization include Sales Service Representative, Assistant Department Superintendent, Development Engineer. He was at one time textile engineer at Limerick (Maine) Yarn Mills. Mr. Crawford holds the degree of Bachelor of Textile Engineering from Lowell Technological Institute as well as certificates in engineering subjects from Massachusetts University Extension. He is a member of American Association for Textile Technology.

VEREL is a readily processable fiber and has evidenced its satisfactory performance on all usual systems of textile manufacture. Because of pilot plant limitations, work involving either the Turbo Stapler or Pacific Converter has been restricted to date. Upon completion of commercial facilities, Verel will be available in tow form in a range of deniers per filament and of total denier consonant with general operating practices. It is now available in staple form in 2, 3, 5, and 8 deniers per filament in both dull and bright luster. Staple length varies according to the particular system of processing under consideration—a range of from about one to six inches. Verel staple is available with varying degrees of shrinkage and is designated as Regular, Type I, and Type II. Fire-resistant Verel is now available and provides the textile trade with a fiber possessed both of utility and excellent spinning and weaving properties.

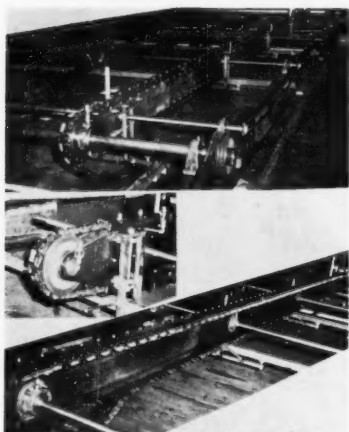
Verel has been processed on the cotton system in a wide range of yarn counts and fiber blends. The following table lists several practical commercial spinning limits utilizing Regular Verel:

100%	2 D/F 1½"	40/1
50%	2 D/F 1½"	31/1
50%	3 D/F 1½"	
100%	3 D/F 1½"	30/1
100%	3 D/F 2"	34/1
100%	3 D/F 2½"	34/1
50%	2 D/F 1½"	
50%	Combed Pima Cotton	68/1
50%	3 D/F 2"	
50%	1½ D/F 2" Viscose	34/1

(Continued on Page 79)

New Machinery

New Equipment

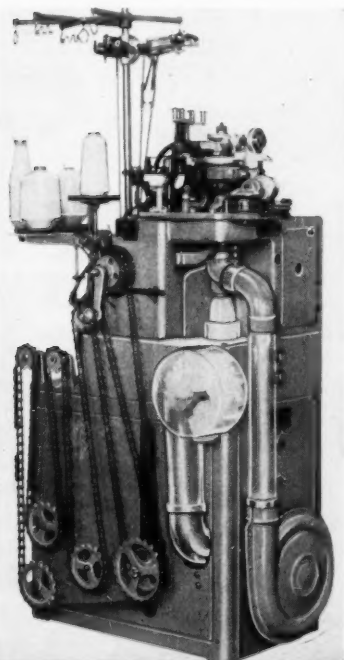


New Tentering System

A tentering system for carpeting, originated, designed and developed by Southern Textile Works, is reported now in active use. The machine automatically evens out and holds straight the carpeting edges during the curing of the latex in the oven and is said to effect savings of 3 to 10% by elimination of the waste on the cut edges and prevention of shrinkage during the drying process. The principal advantage is the control of width from the tufter to the finished carpet.

Automatic Tension Device

Development of a completely new and unique automatic tension device for use with the company's electronically controlled Fidelity 400 ladies' seamfree hosiery machine has been announced by Fi-



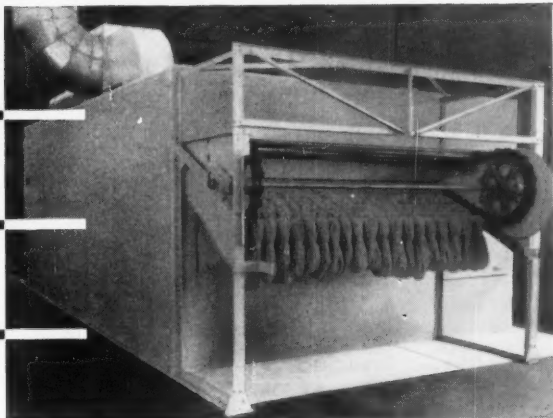
add to your PROFIT from production savings!

**LOW
OPERATING
COST**

**EASIER
INSTALLATION**

**IMPROVED
HOUSING**

**RAPID
DRYING**



Proctor Automatic Skein Yarn Dryer with Two-Way air circulation, drying dyed carpet yarn.

PROCTOR DRYERS for Skein Yarn

Regardless of your output, there is a Proctor Yarn Dryer with the right capacity to make your drying profitable. Truck Dryers for skeins and cakes, or Automatic Dryers for continuous operation, both feature controlled air circulation to provide the *greatest drying uniformity obtainable*. Cotton, wool, silk, or synthetics can be dried at fastest possible rates—show substantial savings in time, labor, and steam requirements. And, as with all Proctor equipment, you can depend on performance guaranteed in terms of the finished product produced. Investigate these profit opportunities now—write today for latest information bulletins.

PROCTOR EQUIPMENT FOR THE TEXTILE FIELD

AUTOMATIC BLENDING SYSTEMS • WEIGHING FEEDS • PICKERS • SHREDDERS • BALE BREAKERS • SYNTHETIC CARDS • GARNETTS • DRYERS FOR FIBROUS MATERIAL • YARN DRYERS • HOT AIR SLASHER DRYERS • CLOTH CARBONIZERS • ROLLER DRYERS AND CURERS • LOOP AGERS FOR PRINT GOODS • TENTER HOUSINGS • OPEN-WIDTH BLEACH SYSTEMS FOR WOVEN FABRICS • MULTIPASS AIRLAY DRYERS • NYLON SETTING EQUIPMENT • CON-O-MATIC WASHERS • CONTINUOUS BLEACH SYSTEMS FOR PRODUCING TUBULAR KNITS • EQUIPMENT FOR "REDMANIZED"® SHRUNK-TO-FIT FABRICS • CARPET DRYERS

WRITE FOR DETAILS



PROCTOR & SCHWARTZ, Inc.

Philadelphia 20, Pennsylvania

Manufacturers of Textile Machinery and Industrial Drying Equipment

U. S. MAN-MADE FIBER PRICES

This schedule lists the prices of yarns, staple and tow as reported by the producers in August, 1956. All prices are given as subject to change without notice.

RAYON FILAMENT YARN

American Bemberg

Current Prices

Regular Production Reel Spun Yarn

Den/Fil	No Twist Skeins	Twisted* Skeins & Cones	8 1/2 Turns	12 Turns	15 Turns	18 Turns
40/30	\$1.49	\$1.95	....	....	....	\$2.08
50/36	1.24	1.50	....	....	....	1.72
65/45	1.14	1.30	....	\$1.53	....	1.58
75/60**	1.04	1.18	....	1.41	\$1.41	1.49
100/74**	.95	1.08	....	1.33	1.33	1.44
125/90	.94	1.05	\$1.09	....	....	....
150/120	.93	1.02	1.12	1.27	....	....
300/225	....	.95	....	....	1.08	....

* Twisted includes twists up to 6 turns on 40 and 50 denier, and up to 5 turns on heavier deniers.

** Spun Dyed Black 15¢ per lb. extra

"44" HH Spool Spun Yarn

Den/Fil	No Twist Tubes	No Twist Beams	5 Turns Beams	5 Turns Cones	12 Turns Beams	12 Turn Skeins & Cones	15 Turn Skeins & Cones
40/30	\$1.35	\$1.35	....	....	....	....	....
50/36	1.00	1.00	....	....	....	....	....
65/45	1.05	....	....	....	....	\$1.42	....
75/45**	.97	.97	\$1.08	\$1.08	\$1.31	1.31	\$1.39
75/54	.97	.97	1.08	1.08	....	....	....
100/60**	.89	.89	1.03	1.03	1.23	1.23	1.23
125/60	.84	.84	.99	.99	....	....	....
150/90***	.77	.77	.81	.81	....	1.15	1.15
150/120	.81	....	....	.93	....	....	....

** Bemberg Solution Dyed yarns are spun in 75/45 and 100/60 only. Black 15¢ per lb. extra; all other colors 35¢ per lb. extra.

*** Spun Dyed Black 15¢ per lb. extra.

Nub-Lite (Short Nubbi)

Code	Den/Fil	2 1/2 Twist Cones	5 Twist Cones
1516	150/90	....	\$1.35
1517*	150/90	....	1.35
2000	200/120	....	....
2025**	200/120	....	.96
3000	300/180	....	.96
4000	400/224	....	1.00
6000	600/360	....	.98
8000	800/450	....	.98

* Code 1517 can be run in warp or filling.

** Code 2025-Softer than 2000.

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight allowed to Memphis, Tennessee. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold f.o.b. delivery point.

CUPIONI Long Type A

Den/Fil	No Twist Skeins	2 1/2 Twist Cones	3 1/2 Twist Cones	5 Twist Cones
150/135	\$1.20	....
275/135	1.05	....
450/372	\$1.05	....	....
600/372	1.02	....	....
900/372	1.02	....	....
1250/372	1.02	....	....
2500/744	1.02	....	....

Type B

Den/Fil	No Twist Skeins	2 1/2 Twist Cones	3 1/2 Twist Cones	5 Twist Cones
50/30	\$1.34	....	....	\$2.09
70/45	1.24	....	1.59	....
100/60	....	....	1.43	....
150/90	....	....	1.20	....
275/135	....	....	1.05	....
450/200	....	1.05	....	....
600/360	....	1.02	....	....

SPUN DYED BLACK 35¢ PER LB. EXTRA.

This applies to 150 and 275 denier only.

Type C

Den/Fil	No Twist Skeins	2 1/2 Twist Cones	3 1/2 Twist Cones	5 Twist Cones
150/112	1.20
275/180	1.05
450/180	1.05
600/225	1.02
900/372	1.02	....	....
1250/372	1.02	....	....
2500/744	1.02	....	....

Modified Type C

Den/Fil	No Twist Skeins	2 1/2 Twist Cones	3 1/2 Twist Cones	5 Twist Cones
100/60	1.43
150/120	1.25

Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station east of the Mississippi River. To points west of the Mississippi River minimum freight allowed to Memphis, Tennessee. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates is sold f.o.b. delivery point.

American Enka Corp.

Current Prices

Standard Quality Yarns

Standard Quality Rayon Yarns

A. Natural:

Den/Fil	Luster	Turns	Weaving Cones	Beams	Long	Short	Cakes	3 Lb. Cakes	Knitting Cones
50/18	E	5	S	....	....	....	1.03	....	1.51
75/10	B	3	S&Z	....	....	....	....	....	1.17
75/18	E	4	S	....	....	....	1.03	....	1.12
75/30	B	4	S&Z	1.12	1.12	....	....	....	1.17
75/30	B	8	Z	1.17	....	1.32	....	....	....
75/45	P,E	2.5	4, 5S&Z	1.12	1.12	1.18	1.03	....	1.12
75/60	P	3	Z	1.17	....	....	.91	....	....
100/14	B	3	S&Z	....	....	....	....	....	1.22
100/40	B,E	12	S	....	....	....	.91	....	.99
100/40	B,P,E	4, 5	S&Z	....	....	....	.91	....	.99
100/40,60	B,P	2.5	S&Z	.99	.99	1.03	.91	....	.99
100/60	E	2.5	S	1.01	1.01	....	.93	....	....
125/40	E	3	Z	....	....	....	.91	....	.91
150/40	B,P,E	2.1,3S&Z	.86	.86	.89	.94	.81	.81	.85
150/40	B,E	5	S	.86	.89	.94	....	....	....
150/40	B,E	8	S&Z	.92	.95	1.00	....	....	....
150/90	B,E	2.1	S&Z	.87	.87	....	.82	....	....
200/40	P	3	Z	....	....	....	....	....	.79
250/60	P,E	2.4	Z	....	....	....	....	....	.72
300/50	B,E	3	S	.70	.70	....	....	....	....
300/60	B,P,E	2.1	S&Z	.70	.70	.73	.68	.68	.70
300/60	B	3.5	S	.70	.70	....	.71	....	....
300/60	B	4.3	S	.73	.73	....	....	....	....
300/60	B	7	S	.80	....	....	....	....	....
300/40	P	2.5	....	....	....	....	....	....	....
120 H.T.	B	3.4S	.72	.72	....	....	....	....	....
450/80	B	3	S	.67	.67	....	.65	.65	....
600/80,120	B,E	3	S	.66	.66	....	.64	.64	....
900/120	B	3.4	S	.65	....	....	.63	.63	....
900/120 H.T.	B	3.6	S	.67	....	....	.65	.65	....

B—Briglo, P—Periglo (semi-dull), E—Englo (dull), H.T.—High Tenacity.

B. Tinted Yarns: 5¢ additional per lb.

"Jetspan" Colored Yarns

Den/Fil	Tenacity	Turns	Weaving Cones	Beams	Cakes	Colors
100/40	Regular	2.5S	1.34	1.34	1.26	All
100/60	Regular	4 S&Z	....	....	....	All
150/40	Regular	2.1S	1.21	1.21	....	All
300/40	Regular	3.4S	1.05	....	....	All
450/80	Regular	3.0S	1.02	....	....	All
600/80	Regular	3.4S	1.01	....	....	All
900/120	Regular	3.4S	1.00	....	....	All
300/40	High	3.4S	1.07	....	....	All
600/80	High	3.4S	1.03	....	....	All
900/120	High	3.4S	1.02	....	....	All

Terms: Net 30 days F.O.B. Enka, North Carolina or Lowland, Tennessee. Minimum common carrier transportation charges prepaid to first destination on or east of the Mississippi River.

American Viscose Corp.

Effective January 23, 1956

Graded Yarns

Den- er	Filament	Type	Short Skeins	Long Skeins	All Cones Beams Tubes Cakes
50 20	Bright & Dull	....	....	....	\$1.51 \$1.40
60 10	Bright	....	....	....	1.36 1.25
75 10-30	Bright	....	1.19	1.15	1.12 1.03
75 30	Dull	....	....	....	1.12 1.03
100 14-40	Bright	....	1.07	1.02	.99 .91
100 60	Dull	....	....	....	1.01 .93
150 24-40-60	Bright & Semi-Dull	....	.94	.89	.86 .81
150 40	Dull	....	....	....	.86 .81
150 90	Dull	....	....	....	.87 .82
200 10-44	Bright	....	.87	.82	.79 .75
250 60	Semi-Dull & Dull	....	.79	.75	.72 .70
300 44	Bright & Dull	....	.76	.73	.70 .68
300 50	Bright	....	....	....	.70 .68
300 234	Dull	....	....	....	.72 .70
450 100	Bright	....	....	.69	.67 .65
600 100	Bright	....	....	.68	.66 .64
900 50-60-100-150	Bright	....	....	.67	.65 .63
1200 75	Bright	....	....	.64	.62 .60
2700 150	Bright	....	....	.67	.65 .63

Extra Turns Per Inch

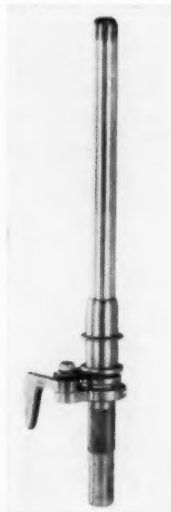
Den- er	Turns	Bright	6-Turns	Short Skeins	Long Skeins	Beams	Cakes
75 30	Bright	6-Turns	\$1.31	\$1.27	\$1.24	\$	\$
100 40	Bright	6-Turns	1.19	1.14	1.11	1.03	1.03
150 40	Bright	6-Turns	1.04	.99	.96	.91	.91
300 15	Bright	5-Turns	....	....	.75	.75	.75
300 44	Bright	6-Turns	....	....	.83	.80	.78
600 30	Bright	5-Turns	....	....	.73	.71	.69

Rayflex Yarns

Den- er	Turns	Rayflex	Short Skeins	Long Skeins	Beams	Cakes
150 60	Rayflex	....	....	....	\$ .89	\$.84
300 120	Rayflex	....	....	....	.72	.70
450 120	Rayflex	....	....	....	.69	.67
600 234	Rayflex	....	....	....	.63	.66
900 350	Rayflex	....	....	.69	.67	.65

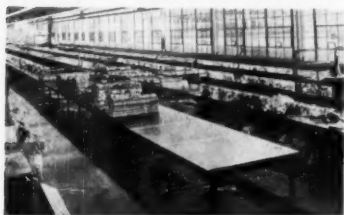
delity Machine Co. Installation of the device is said to require no major alteration of original knitting machine design.

Initial exhibition of the automatic tension device was made at the International Knitting Machinery and Accessories Exhibition, Leicester, England, during October, 1956.



Spinning Spindle Brake

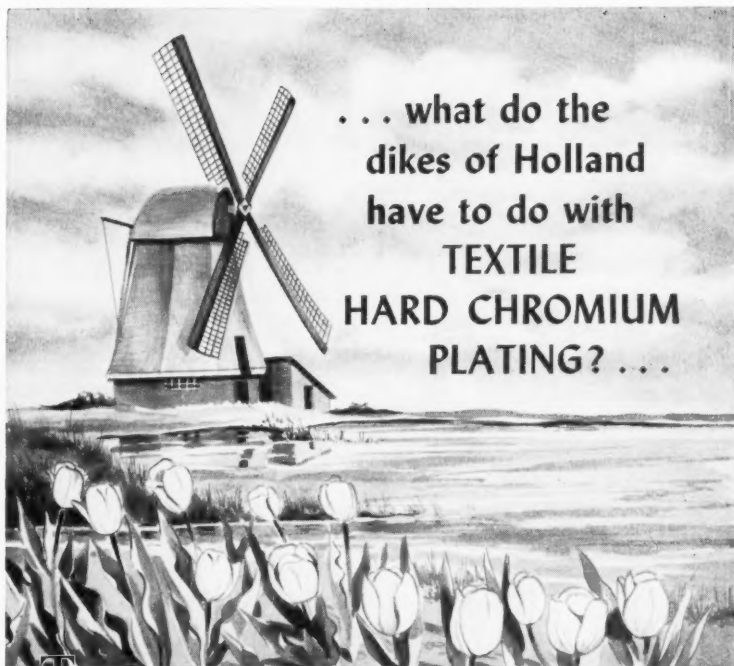
A new spinning spindle, featuring a sturdy new brake integral with the split base, has been introduced by Hartford. The spindle itself follows the well-known design of Hartford machine screw spindles, with two prelubricated ball bearings said to need no greasing for approximately five years. The brake, cast in the split base, works by cam action.



Textile Cutting Table

Textile Trimming and Boarding Machine Co. has placed on the market a textile cutting table with a reversible top made of smooth, splinter-free Masonite tempered Presdwood. Solid steel triangular supports for the table top at each leg provide extra sturdiness and rigidity. The tables can be set up in any length in four foot sections and any width from 36 inches, in 6-inch increments.

For further information
write the editors



... what do the
dikes of Holland
have to do with
**TEXTILE
HARD CHROMIUM
PLATING?** ...

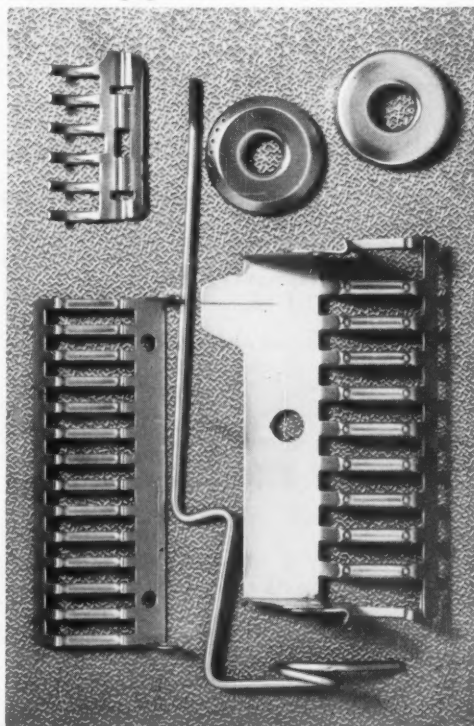
THE FACT that Holland is today a thriving country, although more than one-fourth of its area is below sea level, is mute testimony to the quality of its protective system of dikes. For many centuries the Dutch have waged a never-ending battle by constructing and maintaining an elaborate network of tremendous dikes, some sixty feet high, to protect their low, fertile meadowland from the raging waters of the North Sea.

As Holland's example illustrates, when you have a product worth protecting, it deserves only the strongest, most enduring protection. That's what you get when you use Walton & Lonsbury hard chromium plating in *Polished or Satin Finish*.

Textile machine parts need top-quality, longer lasting protection to reduce downtime costs and cut maintenance expense. Walton & Lonsbury hard chromium plating gives you these benefits and more. Try **WALHARD** on your next hard chromium plating order.



Be sure you are getting quality.
It costs no more and lasts longer.
The leading name in textile hard
chromium plating ...



WALTON and LONSBURY

79 NORTH AVENUE • ATTLEBORO, MASSACHUSETTS

Thick and Thin Yarns

150	40	Bright & Dull	1.10	....
150	90	Bright & Dull	1.10	....
200	75	Bright & Dull	1.02	....
300	120	Bright & Dull	.92	....
450	100	Bright & Dull	.89	....
490	120	Bright & Dull	.92	....
900	350	Dull	.97	....
920	120	Bright & Dull	.97	....

Colortan Yarns

Currently producing regular tenacity and high strength at premiums of \$.35 per pound.

Viscose Filament Yarns

The following deposit charges are made on invoices:

Metal Section Beams	\$17.00 each
Wooden Section Beams	55.00 each
Wooden Section Beam Crates	30.00 each
Metal Section Beam Racks	75.00 each
Metal Tricot Spools—14" flange	30.00 each
21" flange	60.00 each
32" flange	150.00 each
Metal Tricot Spool Racks—14" flange	135.00 each
21" flange	100.00 each
32" flange	75.00 each
Wooden Tricot Spool Crates	20.00 each
Cloth Cake Covers	.05 each

Same to be credited upon return in good condition—freight collect. Terms: Net 30 days.

Celanese Corp. of America

Current Prices

Effective January 24, 1956

Den. Fil. Twist	Beams	Cones	Cakes	Non Shrunken Tubes
#49 and #14 Production				
75/30/3 Bright		\$1.06	\$.98	....
100/40/3 Bright	\$.93	.91	.86	....
100/40/5 Bright		.97	.92	....
100/60/3 Bright		.92	.87	....
125/40/2Z Bright	.89	.87	....	....
150/40/3 Bright	.84	.80	.75	....
150/40/2Z Bright	.82	....	....	....
150/40/5 Bright		.86	.81	....
150/40/8 Bright		.92	.87	....
150/40/0 Bright (Non Shrunken)		.66	....	....
300/50/3 Bright	.69	.68	.66	....
300/50/0 Bright (Non Shrunken)		.60	....	....
#20 Production				
150/40/3 Bright	.82	.78	.73	\$.72
150/40/0 Bright (Non Shrunken)		.66	....	....
150/40/2Z Bright	.82	....	....	....
300/50/3 Bright	.69	.68	.66	....
300/50/0 Bright (Non Shrunken)		.60	....	....
#20 Production				
100/40/3 Dull	.95	.91	.86	....
100/60/0 Dull		.88	....	....
100/60/5 Dull	.99	.97	.92	....
150/40/3 Dull	.82	.78	.73	.72
150/40/0 Dull (Non Shrunken)		.66	....	....
150/90/3 Dull		.85	.80	....
250/60/0 Dull (Non Shrunken)		.64	....	....
250/60/3 Dull		.72	....	.67
#52 Thick & Thin Rayon				
150/60/3 Bright		1.10	....	....
450/120/3 Bright		.89	....	....

Terms: Net 30 days. Prices per pound F.O.B. shipping point, lowest transportation allowed to destination in U.S.A. east of the Mississippi River.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Effective with orders issued April 16, 1956

Bright and Dull

Den.	Fil.	Turns/Inch Up to	(A) Cones, Beams, Tubes	Skeins	Cakes
40	20	3	Textile "Cordura"	1.90	\$1.85
50	20	3		1.58	
50	20	3	Textile "Cordura"	1.60	1.55
50	35	3	Textile "Cordura"	1.65	1.60
75	10	3		1.12	1.03
75	15	3		1.12	1.03
75	30	3		1.12	1.03
100	15	3		.99	.91
100	40	3		.99	.91
100	60	3	Bright	.99	.91
100	60	3	Dull	1.01	.93
125	50	3		.91	.85
150	40	3		.86	.81
150	60	3		.86	
150	60	3	Textile "Cordura"	.87	.82
150	90	3	Dull	.87	.82
150	100	3	Dull	.87	.82
200	35	3		.79	.75
300	20	3		.70	.68
300	50	3.5		.70	.68
300	120	3	Textile "Cordura"	.71	.69
450	72	3		.67	.65
600	96	3		.66	.64
600	240	3	Textile "Cordura"	.67	.65
900	50	3		.65	.63
900	144	3	Textile "Cordura"	.65	.63
1165	480	3		.65	.63
1800	100	3		.65	.63
2700	150	3		.65	.63
5400	300	3		.72	

Thick and Thin

100	40	3	#7	1.38	....	1.38
150	90	3	#7	1.10	1.11	1.10
150	90	3	#19	1.10	1.11	1.10
200	80	3	#7	1.02	1.03	1.02
200	90	3	#19	1.02	1.03	1.02
450	100	3	#7	.89	.90	.89
1100	240	3	#50	1.32	....	1.32
2200	480	3	#50	1.14	....	1.14

Fiber E

300	50	2 1/2		.88	....
900	50	2 1/2		.83	....
900	90	2 1/2		.83	....
2700	150	2 1/2		.88	....
2700	270	2 1/2		.88	....
5400	540	2 1/2		.88	....

(A) 2 1/2 lb. additional for cones less than 3# and tubes less than 2#.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

* "CORDURA" and "SUPER CORDURA" are DuPont's registered trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corp.

Effective January 27, 1956

Denier	Filament	Turns per In.	Type	2 1/2 Lb Cones	4 1/2 Lb Cones	Beams	2 1/2 Lb Tubes	4 1/2 Lb Tubes
100	40	2.5 "S"	Bright	.99	....	.99	....	....
150	40	2.5 "S"	Bright	.86	....	.86	....	....
150	40	2.5 "S"	Luster #4	.86	....	.86	....	....
150	40	2.5 "S"	Bright inter-mediate strength	.87	....	.87	....	....
200	20	2.5 "S"	Bright	.79	....	.79	....	....
200	40	2.5 "S"	Bright	.79	....	.79	....	....
300	44	2.5 "S"	Bright	.70	....	.70	....	....
300	80	2.5 "S"	Bright	.70	....	.70	....	....
300	80	2.5 "S"	Luster #4	.70	....	.70	....	....
300	80	2.5 "S"	Bright extra strong	.72	....	.72	....	....
450	60	2.0 "S"	Bright	.67	.67	.67	.66	.66
600	90	1.5 "S"	Bright	.66	.66	.66	.66	.66
900	50	2.0 "S"	Bright	.65	.65	.65	.65	.65
900	150	1.5 "S"	Bright	.65	.65	.65	.65	.65

Luster #4 is semi-dull.

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points east of the Mississippi River. PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

North American Rayon Corp.

Current Prices

First Quality Yarns	Den. Fil	Twist	Knitting, Jacquard and Velvet Cones	Cones	Beams, Tubes and Weaving Cones	Untreated Cakes
Normal	75/30	3.5			\$1.12	\$1.03
	75/30	7			1.25	
	75/30	10			1.32	
Strength Yarns	100/40/60 Brt.	3.5			.99	.91
NARCO	100/40/60	12			1.17	
	125/52/60	3	\$.91		.91	.85
	125/52/60	10			1.08	
	135/52	3			.90	
	150/42	3	.85		.86	.81
	150/42	0		\$.66		
	150/60	3			.86	
	150/75	3			.86	
	300/75	3	.70		.70	
	300/75	0		.60		
	300/75	6			.80	
	600/98	3	.66		.66	
	900/46	2.5	.65		.65	
	1800/92	2.5	.65		.65	
Semi-High	300/75	3			.71	
Strength Yarns	300/75	6			.81	
Hi-NARCO						

* Oiled Cones .01 per pound extra for Graded Yarns only.

** 1 lb. tubes \$.02 per pound extra for Graded Yarns only.

Terms: Net 30 days f.o.b. shipping point. Minimum freight allowed to consignee's nearest freight station East of the Mississippi River. To points West of the Mississippi River minimum freight to Memphis, Tenn. allowed. Goods after shipment shall be at buyer's risk. Merchandise transported in seller's own trucks or those of its affiliates if sold f.o.b. delivery point.

RAYON HIGH TENACITY YARN and FABRIC

American Enka Corp.

Effective April 2, 1956

Tempra (High Tenacity)

Denier	Elongation	Beams & Cones
1100/480	Low	\$.62
1230/480	High	.62
1650/720	Low	.58
1820/720	High	.58
2200/960	High & Low	.58
1650/720	Low	.61
1900/720	High	.61
2200/960	Low	.60

* Beams Only.

Terms: Net 30 days, f.o.b. Enka, North Carolina, or Lowland Tennessee; minimum freight allowed to first destination east of the Mississippi River.



Textile News Briefs

Baker Catalog Available

A new 28-page catalog on Electrical Contacts and Contact Materials is now available on request from the Contact Division of Baker & Co. Inc., 113 Astor St., Newark 5, N. J. Baker is a subsidiary of Engelhard Industries.

The catalog includes a technical review of such contact materials as silver, platinum, gold, palladium and their alloys, as well as sintered powdered metals, listing their electrical and physical properties and typical applications.

Nylon Tricot Shrinkage

Properly made nylon tricot fabric can be stabilized to give combined warp and filling shrinkages in the low range of one per cent, according to a technical bulletin released by Du Pont's Textile Fibers Department. Rigorous testing disclosed that even the best heat-setting conditions cannot prevent shrinkage if the fabric is stretched excessively during setting or finishing.

New Nat'l Aniline Office

National Aniline Division, Allied Chemical & Dye Corp., recently opened a branch office centrally located in the First Federal Savings Association Bldg., 326 So. Main St., Akron, Ohio. R. W. Vail is in charge of the office.

GE Report on Irrathene

A 12-page, illustrated technical report on Irrathene (R) irradiated polyethylene, No. CDD-1-2, is now available on request from the Chemical Development Department, General Electric Co., 1 Plastics Ave., Pittsfield, Mass. Irrathene is described as a unique insulating material which combines overload protection with the exceptional electrical and physical properties of conventional polyethylene.

Personnel Notes

Gerald S. Tompkins, American Viscose Corp. president, has been elected to Chemstrand Corp.'s board of directors. He succeeds Charles S. Venable, former American Viscose chemical research director now on a consulting basis. Venable will retire from American Viscose soon.

Edward T. Powers has joined The Chemstrand Corp. as director market research and product development.

(Continued on page 79)

Your YARN SHOULD BE DYED BY **GLOBE**

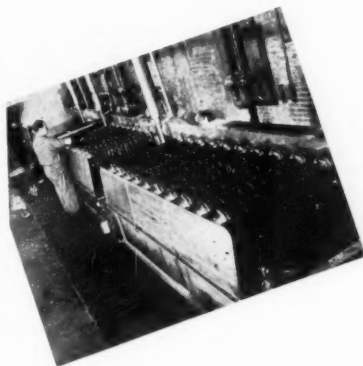
SINCE 1865

Globe has been one of this country's largest and most progressive dyers of cotton and other natural fibers.



EVER SINCE

man-made yarns were first introduced, Globe has led in the development of dyeing methods, and actual dyeing of synthetic yarns.



Globe has the technical skill, the experience, and the wide range of equipment necessary to provide the best method of dyeing for your every yarn dyeing need.



1865

1956

One of America's Largest Yarn Dyers.

Globe does package dyeing on tubes, skein and warp dyeing and bleaching, warp mercerizing, and sizing.

Yarns we process include cotton, rayon, nylon, worsted, linen, blend and novelty yarns. Also Acrilan — Dacron — Orlon.

4500 WORTH STREET,

PHILADELPHIA 24, PA.

Telephone: JEFFERSON 5-3301

American Viscose Corp.

Effective April 2, 1956 (Revised as of May 31, 1956)

Denier	Super Rayflex		Beams	Cones
	Filament	Twist		
1650	980	0	\$.61	\$.61
1650	980	4.1Z	.61	....
Tire Yarn				
1100	490	2.5Z	.62	....
1650	980	0	.58	.58
1650	980	3.2Z	.58	....
2200	980	0	.58	.58

High Strength

1150	490	2.5Z	.62	.62
1230	490	3.6Z	.62	.62
1650	980	3.5Z	.58	.58
1875	980	3.6Z	.58	.58

Super Rayflex, Tire Yarn and High Strength yarns are sold "Not Guaranteed for Dyeing."

Tire Fabric

1100/490/2	.72	....
2200/980/2	.665	....

Above prices based on 80% minimum Carcass, 15% maximum Top Ply, 5% maximum Breaker.

* Production Factor

525	Open	Carcass	.665
300	490	Top Ply	.675
115	275**	Breaker	.70

** Determine by dividing total ends by picks.

** Orders limited to 5% total 1650 fabric booked for any given period.

106. SUPER RAYFLEX FABRIC Add .03 to above tire fabric prices.

The following deposit charges

are made on invoices:

Beams \$55.00 each

Crates (Metal) 75.00 each

Fabric Shell Rolls 3.50 each

Same to be credited upon return in good condition—freight collect.

Terms: Net 30 days.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Super Cordura" (all packages)

1100	480	2	\$.66
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1250	480	2	.66
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1650	720	2	.61
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1900	720	2	.61
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2200	960	2	.60
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2450	960	2	.60
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Beams containing ends of direct dyed yarn \$3.30 per end extra.

Terms: Net 30 days.

Domestic Freight Terms are F.O.B. shipping point, freight pre-

paid our route to points east of the Mississippi River within the

continental limits of the United States, for points west of the Mississippi

River freight allowed to the Mississippi River crossing nearest pur-

chaser's mill if shipped overland, or port of exit of purchaser's choice

east of Mississippi River.

* "CORDURA" and "SUPER CORDURA" are DuPont's registered

trade-marks for its high tenacity rayon yarn.

Industrial Rayon Corp.

Effective March 26, 1956

Unbleached Bright High Tenacity Yarns

SINGLE END BEAMS AND CONES:

Den.	Fil.	Turns	4.4 Lb. Cones	Beams	2.2 Lb. Tubes	4.4 Lb. Tubes
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1100	480	1.5 "Z"	.62	.62	.62	.62
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1650	720	1.5 "Z"	.58	.58	.58	.58
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2200	1000	1.5 "Z"	.57	.57	.57	.57
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3300	1440	1.5 "Z"	.58	.58	.58	.58
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4400	2000	1.5 "Z"	.57	.57	.57	.57
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Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer

on delivery of goods to carrier. Domestic transportation charges al-

lowed at lowest published rate to all points east of the Mississippi

River.

North American Rayon Corp.

High-Strength Yarns—SUPER-NARCO

Denier	Filament	Twist	Cones	Beams
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1650	720	3Z	\$.51	\$.51
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1850	720	3Z	\$.535
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Super High Strength Yarns—

1650	720	1.5Z	.565	.54
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Terms: Net 30 days, f.o.b. shipping point. Minimum freight allowed

to consignee's nearest freight station East of the Mississippi River. To

points West of the Mississippi River minimum freight to Memphis,

Tenn. allowed. Goods after shipment shall be at buyer's risk. Mer-

chandise transported in seller's own trucks or those of its affiliates

if sold f.o.b. delivery point.

ACETATE FILAMENT YARN

American Viscose Corp.

Current Prices

Effective December 20, 1955

Bright and Dull

* Intermediate Twist

Denier & Filaments	4-6 Lb. Tubes	Twister Tubes	Warps	Spinning Cones	Twist Warps
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55/14	\$.99	\$.97	\$.93	\$.93	\$.94
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75/20	.95	.93	.96	.89	.90
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100/28	.91	.89	.92	.85	.86
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120/32	.82	.80	.83	.76	.77
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150/41	.74	.73	.75	.69	.70
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200/54	.70	.68	.71	.66	.67
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300/80	.66	.64	.67	.62	.63
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* Standard Twist 2e additional.

Terms: net 30 days.

Celanese Corp. of America

Current Prices

Effective December 19, 1955

Bright and Dull

Intermediate Twist Spinning Twist

Denier and Filaments	4 & 6-Lb. Cones	Beams	4-TM Tubes	Pound Cheeses	Cones	Beams	0 Twist Tubes
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45/13	\$.12	\$.13	\$.09	\$.09	\$.07	\$.07	\$.875
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55/15	.95	.96	.93	.89	.90	.90	.79
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75/20	.97	.98	.95	.89	.86	.86	.84
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100/26-40	.91	.92	.89	.85	.86	.86	.77
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120/40	.82	.83	.81	.76	.77	.77
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150/40	.74	.75	.74	.74	.69	.70	.66
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200/52	.70	.71	.7066	.67
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300/80	.66	.67	.6662	.63	.60
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450/120	.64	.65	.6460	.61
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600/160	.62	.63	.62
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900/240	.60	.61	.6058
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3 to 5 Turns on Cones or Beams... \$.02 Additional

150 Denier 12 TM Tubes... .73

55/0/15 Dull Tricot Beams... .835

2-Pound Cheeses... .01 Less Than 4-Pound Cheeses

2-BU and 4-BU Tubes... Same Price as 4 and 6-Lb. Cones

Terms: Net 30 days. Prices per pound F.O.B. shipping point, lowest

transportation allowed to destination in U.S.A. east of the Mississippi

River.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

Celaperm Filament Yarn Prices

Intermediate Twist Spinning Twist

Denier and Filaments	4 & 6-Lb. Cones	Beams	Cones	Beams
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55/15	\$.137	\$.135	\$.131	\$.132
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75/20	1.34	1.35	1.28	1.29
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100/26	1.28	1.29	1.22	1.23
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120/40	1.19	1.20	1.13	1.14
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150/40	1.11	1.12	1.06	1.07
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200/52	1.05	1.06	1.01	1.02
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300/80	1.01	1.02	.97	.98
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450/120	.99	1.00	.95	.96
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600/160	.97	.98
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900/80	.94
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3 to 5 Turns on Cones or Beams—\$.02 Additional

Effective March 11, 1955

Celaperm Black Yarn Prices

Intermediate Twist Spinning Twist

Denier and Filaments	4 & 6-Lb. Cones	Beams	Cones	Beams
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55/15	\$.117	\$.118	\$.111	\$.112
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75/20	1.14	1.15	1.08	1.09
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100/26	1.08	1.09	1.02	1.03
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120/40	.99	1.00	.93	.94
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150/40	.91	.92	.86	.87
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200/52	.85	.86	.81	.82
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300/80	.81	.82	.77	.78
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450/120	.79	.80	.75	.76
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600/160	.77	.78
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900/80	.74
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3 to 5 Turns on Cones or Beams—\$.02 Additional

Terms: Net 30 days. Prices per pound F.O.B. shipping point, low-

est transportation allowed to destination in U.S.A. east of the Missis-

sippi River.

Prices subject to change without notice.

All previous prices withdrawn.

Note: Prices on unlisted items can be obtained upon request.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Acetate

Intermediate Twist Low Twist Zero Twist

Denier & Filament	2 & 4 Lb. Tubes	4-6 Lb. Tubes	Cones	Beams	Cones	Beams	Tubes	Beams
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45/13/24	1.12	1.13	1.07	1.05
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55/18/24	.99	1.00	.94	.875935
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75/24	.93	.95	.89	.90	.79	.79	.89
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75/50	.95	.97	.89	.86	.84	.84
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100/32	.89	.91	.85	.86	.77	.77
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100/66	.93	.9479	.79
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120/40/50	.81	.82	.76	.77	.73	.73
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150/16	.78	.7969	.69
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150/40	.74	.75	.69	.70	.66	.66	.69
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200/60	.70	.70	.66	.67	.65	.65
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240/8068
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300/80	.66	.66	.62	.63	.60	.60	.62
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450/120	.64	.64	.60	.61
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600/80/160	.62	.62	.58	.59	.58	.58
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900/44/70/240	.60	.60	.56	.59	.58	.58
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1800/88	.61	.61	.56	.60	.58	.58
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2700/132/210</

Verel (Continued from page 72)

No unusual settings, speeds, etc. are required in the processing of the fiber. One note of caution should be entered, that is, warps containing either 100% or a high percentage of Verel should not be overly stretched unless a shrinking or bulking action is desired in the finished fabric. Any sizing agent now being used on acrylic fibers will be satisfactory on Verel.

Evaluation of our modified acrylic fiber on both the woolen and worsted systems reveals Verel to process well either by itself or in blends with many wools and man-made fibers. Verel has been successfully put through the long series of operations making up the routines of top making and Bradford worsted

spinning. Frame-spun and mule-spun woolen yarns of excellent strength and levelness have been made for such varied uses as fine men's wear to blankets.

Verel offers wide possibilities in the field of high-bulk yarns. By selection of the proper type of Verel, it is possible to produce unique yarn effects. Type I Verel with its moderate shrinkage finds use in backing yarns for man-made fur fabrics while Type II with its high-bulking nature can be used in sweater and jersey yarns. These properties offer the technician new opportunities in engineering heretofore unobtainable constructions. When one combines mixed deniers per filament, bright and dull lusters, dyed and undyed stocks, including the natural fibers (cotton, wool, fur, etc.), the designer has a tool limited only in its scope by his imagination. ■

News (Continued from page 77)

Charles M. Travis has been appointed manager of the Industrial and Diversified Fabrics Division of Burlington Mills. **William N. McQueen** and **Thomas B. Hill**, as co-sales managers, succeed Mr. Travis.



F. N. Spoerl

Frederick N. Spoerl, assistant sales manager of the foreign and domestic sales departments of H. W. Butterworth & Sons Co., retired on October 1 after 44 years with the Butterworth organization.



L. B. Whitcomb

Lee B. Whitcomb has been named sales manager of the Fiber Division of Virginia-Carolina Chemical Corp.

Thomas E. Croxson has been named an acting group leader of the Acrilan Dye Application Group of the Research and Development Division of The Chemstrand Corp.

R. G. Young has been appointed a vice president in charge of the Shirting Fabrics Division of Burlington Mills.

(Continued on page 81)

NON-FLUID OIL

TRADE MARK REGISTERED

STAYS on TWISTER RINGS

Why pay for liquid oils that drip and spatter—or greases that cause yarn strain from traveler friction on rings? You wind up with broken yarn ends, blackened yarn and lower output.

NON-FLUID OIL provides 100% lubrication, goes further, and increases production by staying on rings and off goods in process.

Write for interesting Bulletin T-16 and free testing sample of NON-FLUID OIL—the Number 1 ring lubricant in the textile industry.

NEW YORK & NEW JERSEY LUBRICANT COMPANY

292 MADISON AVE., NEW YORK 17, N. Y.

WORKS: NEWARK, N. J.

Sa. Dist. Mgr.: Lewis W. Thomas, Jr. Charlotte, N. C.

WAREHOUSES		
Birmingham, Ala.	Greensboro, N. C.	
Atlanta, Ga.	Detroit, Mich.	
Columbus, Ga.	Providence, R. I.	
Charlotte, N. C.	Springfield, Mass.	St. Louis, Mo.



NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

Color-Sealed

Denier	Intermediate Twist		Low Twist		Zero Twist	
	2 Lb. 4 & 6 Lb.	Cones Beams	Cones Beams	Tubes Beams	Tubes Beams	Beams
55/18		1.37	1.38	1.32	1.245	1.315
75/24		1.34	1.35	1.28	1.29	1.18
100/32	1.26	1.26	1.28	1.29	1.23	1.14
150/40	1.10	1.11	1.11	1.12	1.06	1.07
200/60	1.04	1.05	1.05	1.06	1.01	1.02
300/80	1.00	1.01	1.01	1.02	.97	.98
300/80					.95	.97

A. Regular Twist—add .02 to intermediate twist prices.

Black

Denier	Intermediate Twist		Low Twist		Zero Twist	
	2 & 4 Lb. 4 & 6 Lb.	Cones Beams	Cones Beams	Tubes Beams	Tubes Beams	Beams
55/18		1.17	1.18	1.11	1.12	1.045
75/24		1.12	1.14	1.15	1.08	1.09
100/32	1.06	1.08	1.09	1.02	1.03	.94
150/40	.91	.91	.92	.86	.87	.83
200/60	.85	.85	.86	.81	.82	.80
300/40-80	.81	.81	.81	.82	.77	.78
450/120	.79	.79	.80	.75	.76	.77
600/160	.77	.77	.77	.73		
900/44-70-240						
1800/88	.74	.74	.74	.73		
2700/132-210	.74	.74	.74	.73		
3000/210						
3200/160	.74	.74				

A. Regular Twist (3 thru 5 t.p.i.)—add .02 in intermediate twist prices.

B. 2 lb. Twisted Tubes are the same as 4 & 6 lb. except on 150-200 and 300 denier intermediate twist where the price is .01 less.

C. 1 lb. % Tubes—add .02 to 2 and 4 lb. % Tubes.

Terms: Net 30 Days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Eastman Chemical Products, Inc.

Tennessee Eastman Co.

Effective December 19, 1955

Estron Yarn, Bright or Dull — White

Denier & Filament	Regular Twist		Intermediate Twist		Low Twist		Zero Twist	
	Cones	Beams	Cones	Beams	Cones	Beams	Tubes	Beams
55/13	\$1.01	\$0.99	\$0.97	\$1.00	\$0.93	\$0.94	\$0.87½	
75/19	.97	.95	.93	.96	.89	.90	.79	
75/49	.99	.97	.95	.98				
100/25	.93	.91	.89	.92	.85	.86	.77	
120/30	.86	.84	.82	.85	.78	.79		
150/38	.76	.74		.75	.69	.70	.66	
200/50	.72	.70		.71	.66	.67	.60	
300/75	.68	.66		.67	.62	.63		
450/114	.66	.64		.65	.60	.61		
600/156	.64	.62		.63	.59	.60		
900/230	.62	.60		.61			.58	
Heavier								.58

Current Prices

Chromspun—Standard Colors (Except Black)

Denier & Filament	Regular Twist		Intermediate Twist		Low Twist	
	Cones	Beams	Cones	Beams	Cones	Beams
55/13	\$1.39	\$1.40	\$1.37	\$1.38	\$1.31	\$1.32
75/19	1.36	1.37	1.34	1.35	1.28	1.29
100/25	1.30	1.31	1.28	1.29	1.22	1.23
150/38			1.11	1.12	1.06	1.07
300/75			1.01	1.02	.97	.98
450/114			.99	1.00	.95	.96
900/230			.94	.95		

Current Prices

Chromspun—Black

Denier & Filament	Regular Twist		Intermediate Twist		Low Twist	
	Cones	Beams	Cones	Beams	Cones	Beams
55/13	\$1.19	\$1.17	\$1.17	\$1.18	\$1.12	
75/19	1.16	1.14	1.14	1.15	1.09	
100/25	1.10	1.08	1.08	1.09	1.03	
150/38	.93	.91	.91	.92	.87	
200/50	.87	.85	.85	.86	.82	
300/75	.83	.81	.81	.82	.78	
450/114	.81	.79	.79	.80	.76	
900/230	.76	.74	.74	.75		

Prices are subject to change without notice.

Prices on special items quoted on request.

Terms: Net 30 days. Payment—U. S. A. dollars.

Transportation charges prepaid or allowed to destination in the United States east of Mississippi River. Seller reserves right to select route and method of shipment. If Buyer requests and Seller agrees to a route or method involving higher than lowest rate Buyer shall pay the excess of transportation cost and tax.

RAYON STAPLE and TOW

American Viscose Corp.

Current Prices

Rayon Staple

	Bright and Dull
Regular	\$.32
Extra Strength	
1.0 Denier	.34
"Viscose 32A"	.36
"Avisco Crimped"	
1.25 Denier	.34
3.0 & 5.5 Deniers	.33
8.0 & 15.0 Deniers	.36
"Avisco Smooth"	
8.0, 15.0 & 22.0 Deniers	.37
Short Staple Blend	.34

Rayon Tow

Grouped Continuous Filaments (200,000 Total Denier)	
1.5, 3.0 & 5.5 Denier Per Filament	.34
9.0 Denier Per Filament	.36
Grouped Continuous Filaments (4400/300 & 2000/1500)	.65
Prices of other descriptions on request.	
Terms: Net 30 days.	

Celanese Corp. of America

Current Prices

Rayon Tow

	Bright & Dull
1.5, 3, 5 D.P.F.	.34
8 D.P.F.	.36

Courtaulds (Alabama) Inc.

Effective April 23, 1956

Rayon Staple

	Bright	Dull
1½ and 3 denier	\$.31	\$.31
Available in 1½", 1-9/16" and 2".		

"Coloray" Spun Dyed Rayon Staple

	1½ Den. 1-9/16"	3 Den. 2"	4½ Den. 6"	Price per Lb.
(Code numbers for color and denier)				
Black	1404	1419	1425	37¢
Tan	8004	8019	8025	39¢
Medium Brown	8804	8819	8825	39¢
Silver Grey	1004	1019	1025	39¢
Terra Cotta	8204	8219	8225	39¢
Khaki	3004	3019	3025	40¢
Dark Brown	8604	8619	8625	40¢
Slate Grey	0804	0819	0825	43¢
Light Blue	4004	4019	4025	44¢
Sulphur	2004	2019	2025	44¢
Apple Green	5104	5119	5025	45¢
Peacock Blue	4604	4619	4625	46¢
Medium Blue	4204	4219	4225	48¢
Dark Blue	4404	4419	4425	49¢
Hunter Green	5404	5419	5425	49¢
Indian Yellow	2504	2519	2525	49¢
Pink	6004	6019	6025	50¢
Turquoise	4804	4819	4825	50¢
Malachite Green	5204	5219	5225	51¢
Red	7004	7019	7025	56¢

(In addition to the above, Black is also available in:

1½ den. 1½" (1401) 3 den. 1-9/16" (1416) 4½ den. 2"

3 den. 1½" (1413) 3 den. 2½" (1420) 4½ den. 4")

Terms: Net 30 days, f.o.b. LeMoyne, Alabama. Minimum transportation allowed to points in U.S.A. east of Mississippi River.

The Hartford Rayon Co.

Div. Bigelow-Sanford Carpet Co., Inc.

Rayon Staple

Effective February 8, 1956

REGULAR

1.5 denier Bright	
1½" and 2"	32¢

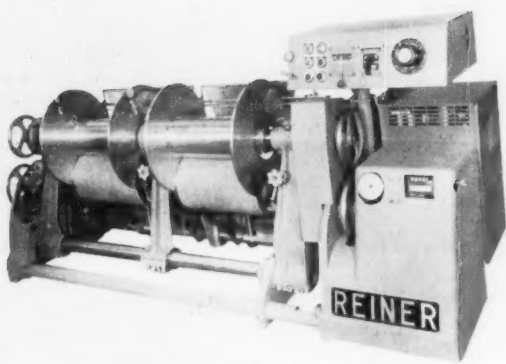
VISCALON 66 (Crimped)

8 denier 2" Bright	35¢
15 denier 3" Bright	35¢
15 denier 3" Dull	35¢

"KOLORBON"—Solution Dyed Rayon Staple

	8 Denier Bright	15 Denier Dull	15 Denier Bright
Cloud Grey	45¢	45¢	
Sandalwood	45¢	45¢	
Nutria	45¢	45¢	
Sea Green	45¢	45¢	
Mint Green	45¢	45¢	
Champagne	45¢	45¢	
Cafe Brown			55¢
Midnight Black			45¢
Gold	48¢	48¢	
Turquoise	45¢	45¢	
Melon	48¢	48¢	
Light Blue	45¢	45¢	
Charcoal Grey	45¢	45¢	

Terms: Net 30 days. Prices are quoted f.o.b. shipping point, lowest cost of transportation allowed, or prepaid. To points West of the Mississippi, lowest cost of transportation allowed to the Mississippi River crossing.



New Reiner Heavy Duty Sectional Warper

Reiner Sectional Warper

Functionally-designed to meet present and future warping requirements, the new heavy duty sectional warper now available from Robert Reiner, Inc., features a streamlined control panel. The machine is capable of running either a 42-inch tricot beam with a flange diameter of 21-inches, or two 21 by 21-inch beams simultaneously. Elimination of the measuring roller does away with yarn strain and imperfections.

Provision has been made to permit the use of warping beams with a maximum flange diameter of 32 inches. Other features include automatic dotting, use as a single 21-inch, single 42-inch or 84-inch warper for either 14 or 21-inch flanges, and horse power and yarn speed accuracy to meet special requirements. Optional equipment available includes stop motion, static eliminators, yarn storage device, comb traverse, foot switch and hand stop switch.

News (Continued from page 79)

William V. Goodhue has been named director of research and engineering for Universal Winding Company's Research Division, and **John V. Keith** has been made chief engineer of the Research and Engineering Division.

William Heller has been elected president of Sidney Blumenthal & Co., Inc. He has been chairman of the executive committee and he will relinquish all his active duties with William Heller, Inc., which he established. **Malcolm G. Jones** has resigned as president and as a board member of the Blumenthal firm.

Ben Heller has succeeded his father, William Heller, as president of William Heller, Inc.

Dr. Louis M. Wise and **Dr. Norman O. V. Sonntag** have been appointed to the research staff of Emery Industries, Inc., and will be associated with the Process Research Section. **Albert L. Lefler** will handle sales of Emersoft softeners, Twitchell oils for sanforized fabrics, and Twitchell wool and worsted oils in North and South Carolina for the Organic Chemical Sales Department of Emery Industries, Inc.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF MODERN TEXTILES MAGAZINE published monthly at Manchester, New Hampshire, for October 1, 1956.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Alfred H. McCollough, 303 Fifth Ave., New York 16, N. Y.
Editor, Jerome Campbell, 303 Fifth Ave., New York 16, N. Y.

Managing Editor, H. George Janner, 303 Fifth Ave., New York 16, N. Y.

Business Manager, H. J. Williams, 303 Fifth Ave., New York 16, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If owned by a partnership, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

Rayon Publishing Corp., 303 Fifth Ave., New York 16, N. Y.
A. H. McCollough, 303 Fifth Ave., New York 16, N. Y.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

A. H. McCOLLOUGH, Publisher

Sworn to and subscribed before me this 25th day of September, 1956.

DORIS P. RATTENBURY
Notary Public, State of New York

No. 24-321700
Qualified in Kings County
Certificate filed in New York County
Commission Expires March 30, 1957

New Drapery Fabric

Tomsaco Fabrics, Inc., has started production on a new drapery and slipcover fabric known as "Sierra." The new product is described as a 48-inch cotton and rayon fabric, vat-dyed, pre-shrunk and treated with Permel Plus Finish to make the fabric water-repellent as well as wrinkle and spot-resistant.

NOW A "COMPLETE PACKAGE"



THE MODERN WAY TO BUY
THROWN, NATURAL OR DYED
FILAMENT YARNS

RAYON • NYLON • DACRON • ORLON

Modern standards of production efficiency and quality demand modern methods. The "complete package"—a perfectly thrown, natural or dyed package of filament yarn—prepared to your custom requirements by experts may be the ideal solution to your yarn problems.

As specialists in the exacting job of dyeing and throwing modern yarns since 1922, Hoffner is the logical choice for "complete package" service.

Why not consult us about this new way of streamlining your production and improving quality?

Hoffner RAYON COMPANY

"For that added touch of beauty"

DYERS and THROWSTERS of MODERN YARNS

General Offices at Belgrade & Ontario Streets, Philadelphia 34, Pennsylvania

Plants at Philadelphia and Quakertown, Pennsylvania

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David F. Swain & Company, 105 W. Adams Street, Chicago 3, Ill.

REPRESENTATIVES

Shannonhouse & Wetzell, Johnston Building, Charlotte 2, N. C.

ACETATE STAPLE and TOW

Celanese Corp. of America

Current Prices

Staple

Celanese Acetate Staple		Bright & Dull
2, 3, 5.5 & 8 Individual Deniers		\$.32
12 & 17 Individual Deniers		.33
35 & 50 Individual Deniers		.36
5/8" to 3/4" cut length (all deniers)—Premium		.03
Variable Acetate Fibers		.30
35 Individual Denier Flat Filament Acetate		.38

Tow

Celanese Celatow Acetate		Bright & Dull
2, 3, 5.5 & 8 Individual Deniers		\$.34
12 & 17 Individual Deniers		.35
35 & 50 Individual Deniers		.37

Terms: Net 30 days. Prices per pound F.O.B. shipping point, lowest transportation allowed to destination in U.S.A. east of the Mississippi River.

Prices subject to change without notice.

All previous prices withdrawn.

NON CELLULOSIC YARN

NYLON

Allied Chemical and Dye Corporation

"Caprolan" Tensile Tough Nylon

Effective September 24, 1956

Heavy Yarns

Denier	Fila- ment	Turn/ In.	Twist	Type**	Package	Price/Lb.
2100	408	0	0	HB	Paper Tube*	\$1.27
2100	112	0	0	HB	Paper Tube	1.30
2500	408	0	0	HB	Paper Tube	1.27
2500	112	0	0	HB	Paper Tube	1.30
3360	544	0	0	HB	Paper Tube	1.26
3360	168	0	0	HB	Paper Tube	1.29
4200	680	0	0	HB	Paper Tube	1.26
4200	224	0	0	HB	Paper Tube	1.29
5000	816	0	0	HB	Paper Tube	1.25
5000	280	0	0	HB	Paper Tube	1.28
7500	1224	0	0	HB	Paper Tube	1.24
10,000	1632	0	0	HB	Paper Tube	1.24
15,000	2448	0	0	HB	Paper Tube	1.23

Terms—Net 30 days.

These prices are subject to change without notice. All prices are quoted F.O.B. shipping point.

Lowest freight cost prepaid or allowed east of Mississippi River.

* Paper Tubes non-returnable, no charge.

** Type is used to describe luster and tenacity.

Type HB: High Tenacity, Bright.

American Enka Corporation

Nylenka Filament Yarn Prices

Effective March 16, 1956

Denier & Filament	Twist	Luster	Type	Tenacity	Package	Yarn Weight per Package	Price per Pound, Std.	Price per Pound, Sub.
15/1	0.5Z	semi-dull	9402	Normal	Pirn	1 lb.	\$5.00	\$4.80
30/6	0.5Z	semi-dull	9414	Normal	Pirn	2 lb.	2.25	2.10
30/8	0.5Z	semi-dull	9424	Normal	Pirn	2 lb.	2.25	2.10
40/8	0.5Z	semi-dull	9426	Normal	Pirn	2 lb.	1.90	1.75
50/13	0.5Z	semi-dull	9442	Normal	Pirn	2 lb.	1.80	1.70
100/24	0.5Z	semi-dull	9628	Normal	Pirn	2 lb.	1.80	1.55
100/32	0.5Z	semi-dull	9652	Normal	Pirn	2 lb.	1.60	1.55
200/34	0.5Z	bright	9822	Normal	Pirn	2 lb.	1.45	1.40
200/34	0.5Z	bright	9222	Normal	Cone	4 lb.	1.45	1.40
210/34	0.5Z	bright	9204	High	Pirn	2 lb.	1.45	1.40
210/34	0.5Z	bright	9214	High	Cone	4 lb.	1.45	1.40
840/140	0.5Z	bright	9202	High	Pirn	2 lb.	1.30	1.20
840/140	0.5Z	bright	9208	High	Cone	4 lb.	1.30	1.20
840/140	0.5Z	bright	9228	High	Cone	4 lb.	1.30	1.20

840/140 0.5Z bright 9302 High Beam — 1.30 1.20
Pirns charged at \$.25 each. Deposit refunded upon return of pirn in good condition. Cones are non-returnable. Beams and cradles are deposit carriers and remain property of American Enka Corporation.

Terms: Net 30 days. Minimum common carrier transportation charges will be prepaid and absorbed to the first destination on or east of the Mississippi River. In prepaying transportation charges, seller reserves the right to select the carrier used.

The Chemstrand Corp.

Current Prices

Effective October 1, 1956

Denier	Fila- ment	Twist	Type*	Package	Standard Price/Lb.	Second Price/Lb.
10	1	O	SD	Bobbins	\$8.00	\$7.60
15	1	O	SD	Bobbins	5.00	4.80
15	1	O	D	Bobbins	5.05	4.80
30	10	Z	SD	Bobbins	2.25	2.10
40	7	Z	SD	Bobbins	2.00	1.75
40	13	Z	SD	Bobbins	1.90	1.75
40	13	Z	SD	Spools	2.00	1.75
40	13	Z	D	Bobbins	1.95	1.75
40	13	Z	D	Spools	2.05	1.75
50	17	Z	SD	Bobbins	1.80	1.70
70	34	Z	SD	Bobbins	1.60	1.55
70	34	Z	B	Bobbins	1.60	1.55
70	34	Z	HB	Bobbins	1.65	1.55
70	34	Z	D	Spools	1.75	1.55
80	26	Z	SD	Bobbins	1.60	1.55

100	34	Z	SD	Bobbins	1.60	1.55
100	34	Z	HB	Bobbins	1.65	1.55
140	68	Z	SD	Bobbins	1.55	1.50
200	34	Z	B	Bobbins	1.45	1.40
210	34	Z	HB	Bobbins	1.45	1.40
210	34	Z	HB	Spools	1.50	1.40
210	34	Z	HB	Beams	1.50	1.40
260	17	Z	HB	Bobbins	1.45	1.35
260	17	Z	HB	Spools	1.50	1.40
420	68	Z	HB	Bobbins	1.35	1.25
630	102	Z	HB	Bobbins	1.35	1.25
840	136	Z	HB	Bobbins	1.30	1.20
840	136	Z	HB	Tubes	1.30	1.20
840	136	Z	HB	Beams	1.30	1.20
840	140	Z	HB	Beams	1.30	1.20
840	140	Z	HB	Tubes	1.30	1.20

* Types: D—Dull; SD—Semi-dull; B—Bright; H—High tenacity. Bobbins are invoiced at 25¢ or 45¢ each, depending on type; tubes are invoiced at 40¢ each; spools invoiced at \$77.00 and \$95.00 depending on type; and beams and crates for beams are invoiced at \$220 and \$25 respectively.

Prices subject to change without notice.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Nylon Yarn

Den- ier	Fila- ment	Turn/ In.	Twist	Type*	Package	1st Grade	2nd Grade
7	1	0	O	200	Bobbin	\$9.00	\$8.55
10	1	0	O	200	Bobbin	8.00	7.60
12	1	0	O	200	Bobbin	7.00	6.65
15	1	0	O	200	Bobbin	5.00	4.80
15	1	0	O	200	Tricot Beam	5.15	—
15	1	0	O	680	Bobbin	5.05	4.80
15	1	0	O	680	Tricot Beam	5.05	—
15	3	1/4	Z	200	Bobbin	5.00	4.80
20	1	0	O	200	Bobbin	4.00	3.80
20	7	1/2	Z	200	Bobbin	2.75	2.55
20	7	1/2	Z	680	Bobbin	2.80	2.55
20	20	3/4	Z	209	Bobbin	6.00	—
30	10	1/2	Z	100, 200	Bobbin	2.25	2.10
30	10	1/2	Z	680	Bobbin	2.30	2.10
30	26	3/4	Z	200	Bobbin	2.35	2.10
40	7	1/2	Z	200	Bobbin	2.00	1.75
40	13	1/2	Z	100, 200	Bobbin	1.90	1.75
40	13	1/2	Z	200	Tricot Beam	2.00	—
40	13	1/2	Z	400	Bobbin	2.00	1.85
40	13	1/2	Z	670, 680	Bobbin	1.95	1.75
40	13	1/2	Z	670, 680	Tricot Beam	2.05	—
40	34	3/4	Z	200	Bobbin	2.00	1.80
50	7	1/2	Z	200	Bobbin	1.90	1.70
50	17	1/2	Z	200	Bobbin	1.80	1.70
50	17	1/2	Z	670, 680	Bobbin	1.85	1.70
60	20	1/2	Z	200	Bobbin	1.70	1.60
70	17	1/2	Z	100, 200	Bobbin	1.60	1.55
70	34	3/4	Z	100, 200	Bobbin	1.60	1.55
70	34	3/4	Z	300	Bobbin	1.60	1.55
70	34	3/4	Z	680	Bobbin	1.65	1.55
80	26	3/4	Z	200	Bobbin	1.60	1.55
80	68	3/4	Z	200	Bobbin	1.65	1.55
100	34	3/4	Z	100, 200	Bobbin	1.60	1.55
100	34	3/4	Z	300	Bobbin	1.65	1.55
100	34	3/4	Z	680	Bobbin	1.65	1.55
100	50	1/2	Z	200	Bobbin	1.60	1.55
140	68	3/4	Z	100, 200	Bobbin	1.55	1.50
140	68	3/4	Z	300	Bobbin	1.60	1.50
200	20	3/4	Z	100	Bobbin	1.45	1.40
200	34	3/4	Z	100, 200	Bobbin	1.45	1.40
200	34	3/4	Z	680	Bobbin	1.50	1.40
200	68	3/4	Z	100, 200	Bobbin	1.45	1.35
210	34	3/4	Z	300	Bobbin	1.45	1.40
210	34	3/4	Z	300	Beams	1.50	1.45
260	17	1	Z	100	Bobbin	1.45	1.35
260	17	1	Z	300	Bobbin	1.45	1.35
400	68	3/4	Z	100	Bobbin	1.35	1.25
420	68	3/4	Z	300	Bobbin	1.35	1.25
780	51	1/2	Z	300	Bobbin	1.35	1.25
800	140	1	Z	300	Bobbin	1.35	1.25
840	136	1	Z	300	Bobbin	1.30	1.20
840	140	1/2	Z	300, 700	Alum. Tube/ Beam	1.30	1.20

Color-Sealed Yarn 200 34 3/4 Z 140 Bobbin 1.80 1.75

Industrial Yarn		Price/Lb.
2520	420	\$1.27
4200	700	0
5040	840	0
7560	1260	0
15120	2520	0

These prices are subject to change without notice.

Terms—Net 30 Days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Following are invoiced as a separate item:

Bobbins at 25 cents or 45 cents each depending on type.

Aluminum Tubes at 40 cents each.

Tire Cord Beams (Domestic Shipments) \$220 each.

Cradles for Tire Cord Beams (Domestic Shipments) \$115.00 each.

(Beams and Cradles are deposit carriers and remain the property of E. I. du Pont de Nemours & Co.)

Types

* Type is used to describe luster, tenacity, and size or oil content.

Type 100 Bright, normal tenacity.

Type 200 Semidull, normal tenacity.

Type 209 Semidull, normal tenacity, #S-139 spin finish.

Type 300 Bright, high tenacity.

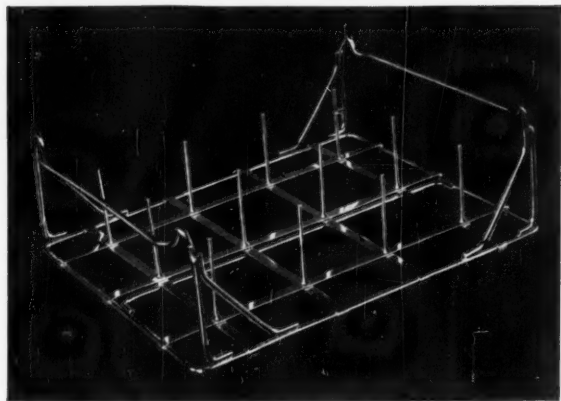
Type 400 Semidull, high tenacity.

Type 670 Dull, normal tenacity.

Type 680 Dull, normal tenacity.

Type 700, Bright, high tenacity.

Type 140, Color-sealed, Black, normal tenacity.



New! Sterling Boards of Stainless Steel Bobbin — Cone — Shell — Quill

No rust, no replating, low maintenance when you use Sterling Stainless Steel Boards.

Sterling Boards are self-stacking—eliminate racks—simplify handling—save space.

Sterling Boards are made to your individual specifications from either stainless steel or cadmium plated steel to hold the number and style of package you require. Write today and learn how you can save with Sterling Boards.

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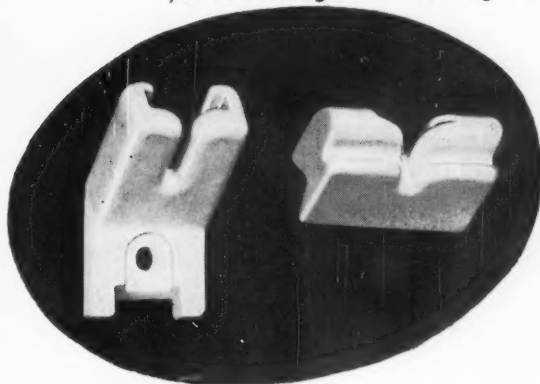
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have accumulated a vast store of experience in ceramic guide manufacture. We believe it helps explain why Lambertville guides are unsurpassed in smoothness, hardness, and uniformity. Available in white or 'Durablu' finish. Write for catalog and samples.

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cordially invites you to review
M & W Tentering Equipment
at either of our plants in
PROVIDENCE, R.I. and GREENVILLE, S.C.



Greenville, S. C.

New M & W plant, including sales and service headquarters, housing both Marshall & Williams Southern Corp. and Marshall & Williams Equipment Co. Designed to speed service, this new 15,000 sq. ft. structure is on S. C. Bypass 291, South Pleasantburg Drive.



MARSHALL and WILLIAMS CORPORATION
PROVIDENCE, R. I. • GREENVILLE, S. C. • NEW YORK, N. Y.

If you missed the Southern Textile Exposition, we will be glad to show you — and to discuss in detail — the latest in M & W developments. For years we have concentrated our entire efforts on the manufacture of tentering equipment of all kinds, and the development of auxiliary equipment which is a natural complement of tentering. The entire line includes —

HIGH SPEED TENTER FRAMES
MERCERIZING TENTER
PIN TENTER
TENTERETTES
TENSIONLESS BATCHERS
CONSTANT TENSION WINDERS
SWING PLAITERS
LET-OFF STANDS
OVERFEED EQUIPMENT
SELVAGE UNCURLERS
TENTER CLIPS
PIN PLATES & CLIPS

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Dacron"*

Den.	Fill.	Twist	Luster	Type	Tubes 1st Gr.
30	20	0	Dull	57	\$2.75
40	27	0	Semi-Dull	56	2.30
40	27	0	Dull	57	2.35
70	14	0	Bright	55	1.90
70	34	0	Semi-Dull	56	1.90
70	34	0	Bright	55	1.90
70	34	0	Dull	57	1.95
100	34	0	Semi-Dull	56	1.85
140	28	0	Bright	55	1.80
150	68	0	Semi-Dull	56	1.80
220	50	0	Bright	51	1.75
230	50	0	Bright	55	1.75
1100	250	0	Semi-Dull	59	1.50
1100	250	0	Bright	51	1.50

Terms: Net 30 Days

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Yarn Types

- 51 Bright High Tenacity
- 56 Semi-Dull Normal Tenacity
- 57 Dull Normal Tenacity
- 55 Bright Normal Tenacity
- 59 Semi-Dull High Tenacity

Tubes are invoiced as a separate item at \$.70 or \$.80 each and are returnable for credit.

* "DACRON" is DuPont's registered trade-mark for its polyester fiber.

NON CELLULOSIC STAPLE & TOW

ACRYLIC

The Chemstrand Corp.

Current Prices

"Acrlan"

2.0 denier Semi-dull staple and tow	\$1.18
2.5 denier Hi-Bulk Bright and Semi-dull staple and tow	1.12
3.0 denier Bright & Semi-dull staple and tow	1.12
5.0 denier Bright & Semi-dull staple and tow	1.12
8.0 denier Bright and Semi-dull staple and tow	1.12
Hi-Bulk staple Semi-dull	1.12

Terms: Net 30 days. Freight prepaid to points east of the Mississippi River.

Carbide and Carbon Chemicals Co.

Div. Union Carbide and Carbon Corp.

Textile Fibers Dept.

Effective November 1, 1955

Dynel Staple

Natural Dynel	
3, 6, 12, and 24 Denier, Staple and Tow	\$1.05 per lb.
Whitened Dynel, and Dynel Spun with Light Colors: Blonde, or Gray	
3 and 6 Denier, Staple and Tow	1.20 per lb.
Dynel Spun with Dark Colors: Black, Charcoal, and Brown	
3 and 6 Denier, Staple and Tow	1.30 per lb.

Prices are quoted f.o.b. South Charleston, W. Va.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Orlon"*** Acrylic Staple & Tow

Denier	Price 1st Grade
2.0 Denier	\$1.30
3.0 Denier	1.25
3.0 Denier Color-sealed Black—Staple only	1.60
4.5 Denier	1.20
6.0 Denier	1.20

Staple Lengths—1½", 2", 2½", 3", 4½".

High Shrinkage Staple same price as Regular Staple.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

** "ORLON" is DuPont's registered trade-mark for its acrylic fiber.

NYLON

American Enka Corp.

Nylenka (Nylon Six Staple)

Denier	Luster	Length (Inches)	Price per pound
3	semi-dull	1½, 1½, 2, 2½, 3, 4½	\$1.25
6	bright	3, 4½	1.25
8	bright	2½	1.20
10	bright	3	1.20
15	bright	3	1.20

Deniers and lengths of staple not listed above are available upon special request.

Terms: Net 30 days. Minimum common carrier transportation charges will be prepaid and absorbed to the first destination on or east of the Mississippi River. In prepaying transportation charges, seller reserves the right to select the carrier used.

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

Nylon Staple and Tow

Denier	Length	Type*	Price/Lb.
1.5	1½"—1½"—2"—2½"	100/200	\$1.30
1.5	1½"—1½"—2"—2½"	101/201	1.32
3.0	1½"—1½"—2"—2½"—3"—4½"	100/200	1.25
3.0	1½"—1½"—2"—2½"—3"—4½"	101/201	1.27
6.0	1½"—1½"—2"—2½"—3"—4½"	100/200	1.25
6.0	1½"—1½"—2"—2½"—3"—4½"	101/201	1.27
15.0	1½"—3"—4½"—6½"	100	1.20
15.0	1½"—3"—4½"—6½"	101	1.22

Tow price same as Staple for:

- 1.5 denier type 200 in 330,000 total denier
- 1.5 denier type 201 in 350,000 total denier
- 3.0 denier type 100/200 in 430,000 total denier
- 3.0 denier type 101/201 in 455,000 total denier
- 6.0 denier type 100 in 330,000 total denier
- 6.0 denier type 101 in 345,000 total denier
- 15.0 denier type 100 in 330,000 total denier
- 15.0 denier type 101 in 350,000 total denier

These prices are subject to change without notice.

Terms: Net 30 Days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

Types

* Type is used to describe luster, tenacity, not crimpset, or crimpset.

Type 100 Bright, normal tenacity, not crimpset.

Type 101 Bright, normal tenacity, crimpset.

Type 200 Semi-dull, normal tenacity, not crimpset.

Type 201 Semi-dull, normal tenacity, crimpset.

Industrial Rayon Corp.

Effective April 9, 1956

Nylon Staple

1.5 denier	\$1.30 per lb.
2, 3 and 6 denier	1.25 per lb.
8 and 15 denier	1.20 per lb.

Bright and semi-dull, required length.

Terms: Net 30 days f.o.b. point of shipment; title to pass to buyer on delivery of goods to carrier. Domestic transportation charges allowed at lowest published rate to all points east of the Mississippi River.

POLYESTER

E. I. du Pont de Nemours & Co.

Textile Fibers Dept.

Current Prices

"Dacron"*** Staple and Tow

Den.	Luster	Type	Staple Length	Tow Bundle	1st Gr
1.25	Semi-Dull	54	1¼"-3"	385M	\$1.50
1.5	Semi-Dull	54	1¼"-4½"	385M	1.45
3.0	Semi-Dull	54	1¼"-4½"	385M	1.35
4.5	Semi-Dull	54	1¼"-4½"	385M	1.35
6.0	Semi-Dull	54	1¼"-4½"	385M	1.35

Terms: Net 30 Days.

Domestic Freight Terms are F.O.B. shipping point, freight prepaid our route to points east of the Mississippi River within the continental limits of the United States, for points west of the Mississippi River freight allowed to the Mississippi River crossing nearest purchaser's mill if shipped overland, or port of exit of purchaser's choice east of Mississippi River.

* "DACRON" is DuPont's registered trade-mark for its polyester fiber.

POLYVINYL ACETATE

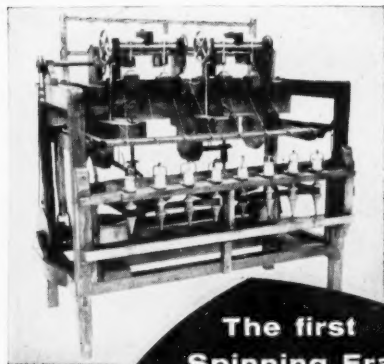
American Viscose Corp.

Effective October 1, 1950

Vinyon Staple

3.0 denier ¼" unopened	\$1.80 per lb.
3.0 denier 1¼", 2" opened	.90 per lb.
5.5 denier 1", 3½" opened	.90 per lb.

Terms: Net 30 days.



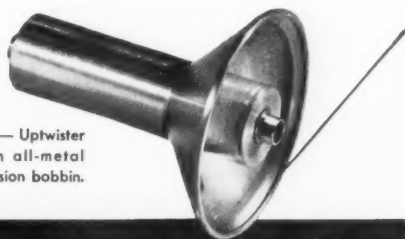
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Sir Richard Arkwright's original spinning frame used flyers. Rings and travelers came into general use in the 1830's, not many years before DIAMOND FINISH began making the line of rings which today stands for the FINEST in modern ring practice.



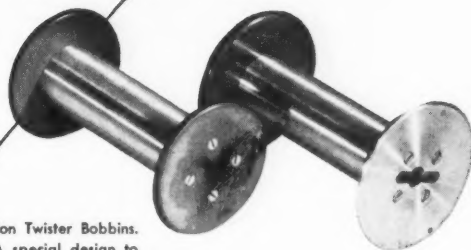
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First, because quality and price are proper—but not excessive—for a particular application. By buying just the precision you need, you can make important long-range savings.

Second, you will find Lestershire representatives helpfully inquisitive about your processes. They're as willing to learn about your specific problems as they are to supply you with valuable field and laboratory experience. Too, they take special pride in seeing that you receive prompt delivery and continued service from nearby supply houses.

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PROTEIN

Charlotte Fibre Co.

Exclusive Agents for Snia Viscosa Italy "Merinova"

Effective January 1, 1954

Merinova Staple

3 Denier 1-9/16", 2-1/2" and 3"	\$.81
5 Denier 1-1/16", 1-9/16", 2-1/2", 4" and 6"	.81
9 Denier 4"	.81
18 Denier 6", 2-1/2"	.81
60 Denier 14"	.85

Other lengths or deniers can be produced as requested.
Solution-dyed Merinova staple fiber.

Light colors	.90 per lb.
Medium colors	.95 per lb.
Dark colors	1.00 per lb.

French Combed Tops 1.10

Terms: Net 30 days. All prices are duty paid, landed free, freight prepaid to rail point nearest destination.

Virginia-Carolina Chemical Corp.

Fiber Division

Effective January 15, 1951

"Vicara" Staple

	Standard Crimp	Highly Crimped
3 Denier	\$1.00 per lb.	\$1.05 per lb.
5 Denier	1.00 per lb.	1.05 per lb.
7 Denier	1.00 per lb.	1.05 per lb.

Bleached "Vicara" Staple

	Standard Crimp	Highly Crimped
3 Denier	\$1.10 per lb.	\$1.15 per lb.
5 Denier	1.10 per lb.	1.15 per lb.
7 Denier	1.10 per lb.	1.15 per lb.

Staple length 1/2 to 6 in.

Supplied in staple lengths or as continuous tow (270,000 filaments).

Terms: Net 30 days.

Prices f.o.b. Taftville, Conn. on 10% moisture regain basis.

New Acetate Carpet Yarns

Lofted acetate filament yarns are now available for carpets and rugs. Last month Eastman Chemical Products, Inc., a subsidiary of Tennessee Eastman Co. brought out solution-dyed and natural acetate filament yarn lofted especially for use in tufted floor coverings. Commercial quantities will be available by January, 1957. The new heavy denier yarns are made in 2200, 2700 and 5300 deniers.

The solution-dyed yarns in this new group, known by their tradename, Chromspun, are available in 12 colors. According to Eastman, exhaustive tests over "an extended period" show that the new carpet yarns have many advantages including greater resistance to matting as well as superior resistance to soiling. Prices for the new yarns are:

	Bright & Semi-dull	Black	Colors
2200D 16 D/F	.62	72	79
2700D 8 & 16 D/F	.60	70	77
5300D 16 D/F	.58	68	75

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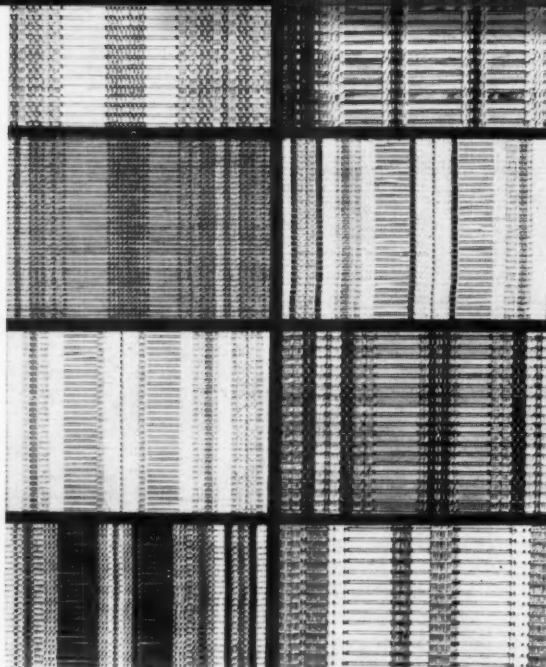
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New Woven Wood Line

American Bamboo Corp., Jamaica, New York City, has announced a new line of woven wood fabrics. A "Wovynwood" division has been formed to produce the woven woods in three lines: stock roll goods, custom stock, and custom. Lee Jacobs, general sales manager, announced a nationwide distribution and sales system for the new line.

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Calendar of Coming Events

Nov. 1-2—AIEE Fall Textile Conference, N. C. State College, Raleigh, N. C.
 Nov. 1-2—S. C. Textile Manufacturers Assoc. Personnel Div., Myrtle Beach, S. C.
 Nov. 2—AATCC Philadelphia Section. Drake Hotel, Philadelphia, Pa.
 Nov. 3—Southern Textile Association, North Carolina Div. Clemson, S. C.
 Nov. 7—AATT monthly meeting, Hotel Vanderbilt, New York, N. Y.
 Nov. 16—AATCC Western N.E. Section. Shelton, Conn.
 Nov. 26-30—22nd National Exposition Power & Mechanical Engineering, Coliseum, New York, N. Y.

Nov. 27-30—9th National Chemical Exposition, Public Auditorium, Cleveland, O.
 Dec. 1—AATCC South Central Section. Hotel Patten, Chattanooga, Tenn.
 Dec. 1—AATCC Northern N.E. Section annual meeting. Hotel Vendome, Boston, Mass.
 Dec. 5—AATT monthly meeting. Vanderbilt Hotel, New York, N. Y.
 Dec. 8—AATCC Southeastern Section. Biltmore Hotel, Atlanta, Ga.
 Jan. 28-29—National Cotton Council annual meeting. St. Louis, Mo.
 Jan. 28-31—Plant Maintenance & Engineering Show, Cleveland, O.

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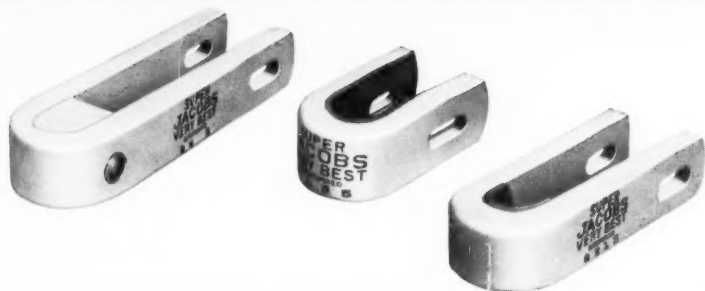
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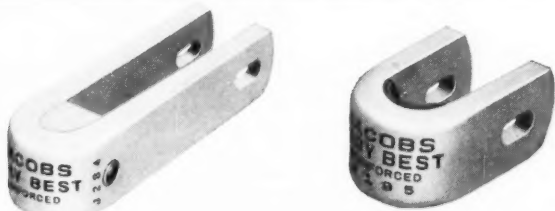
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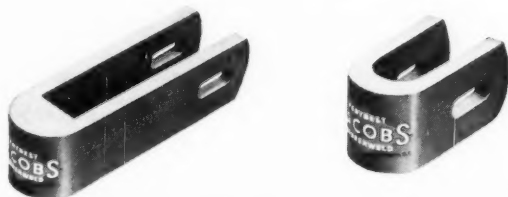
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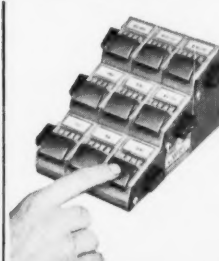
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